

A kinder, gentler CAP Computer Associates is turning to partners to boost security, storage and other product lines. PAGE 10.



NetworkWorld

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January 14, 2002 Volume 19, Number 2

Web portals pose security challenge

■ BY ELLEN MESSMER AND JENNIFER MEARS

A growing number of companies are setting up Web portals to let employees and trading partners access critical business information and services, even though securing such systems presents a daunting

Many Web portal software vendors, including Plumtree Software and

challenge.

Epicentric, acknowledge they don't have sophisticated single sign-on (SSO) access-control capabilities. To provide better authen-

> tication and access-management controls, they

have to work closely with SSO vendors such as Netegrity.

For network executives, this can mean sorting through dozens of possible mix-and-match combinations to set up a portal with security.

See Security, page 16

Threat to 'Net

Experts issue warning on multimedia instant messaging.

■ BY CAROLYN DUFFY MARSAN

The Internet engineering community has run into a significant technical hurdle in the development of an industry standard to support instant messages with multimedia attachments, such as audio or video clips.

If leading instant messaging service providers such as AOL and Microsoft offer multimedia instant messaging services to their millions of users, Internet communications could ground to a halt. Service providers now support only text-based instant messages.

The Internet Engineering Task Force (IETF), which identified the multimedia instant messaging problem, is soliciting potential fixes from its participants and plans to debate these fixes at its Imagine the after-school surge, with millions of teenagers online and sending MP3s to each other. We're talking about volumes of traffic that may be half of the backbone.

Allison Mankin

co-chair of the Internet Engineering Task Force's transport area

meeting in March.

lETF leaders say protocols being developed to support textbased instant messaging won't handle multimedia instant messaging attachments. They say a new communications protocol is needed to transport those files. This new protocol must provide congestion-control mechanisms to prevent instant messaging users from overwhelming the Internet's backbone with MP3 music files, photos or voice clips.

"There would be a potential for

See IM, page 53

Akamai looks to boost intranet delivery speed

More online!

Passlogix provides a twist to com-

plex single sign-on software.

DocFinder: 7547

■ BY JENNIFER MEARS

CAMBRIDGE, MASS. — Content delivery specialist Akamai Technologies has quietly been readying a version of its patented technology that companies can use internally to speed distribution of content, data and applications among employees.

Akamai, which runs more than 13,000 caching servers that sit at the edge of over 1,000 public networks in more than five dozen countries, says the package will initially be offered as a managed service, in which Akamai engineers will deploy switches and appliances and

See Akamai, page 53



Three steps to streaming media. Page 39

When it comes to streaming media, General Mills has been eating its Wheaties. Page 40

'Feature:

Streaming video is taking off as a corporate communications and training tool. Leading the charge are individual champions who create content for their companies, then wait for the technology and the bandwidth to catch up.

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Passport or Liberty Alliance for global authentication?

Microsoft is pushing its Passport system for e-commerce and other applications that require verifying a user's identity. But Sun and its partners are pushing a competing scheme. Which to go with? Read Linda Musthaler's thoughts, then see what other Fusion users have to say — and jump in with your own thoughts.

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Resetting 'success' for 2002

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News

Russo returns to Lucent as CEO

Lucent last week named a former company executive its new CEO, ending a long search that began with the removal of CEO Rich McGinn in October 2000. Lucent tapped Patricia Russo, president of Eastman Kodak, as its new president and CEO, replacing Henry Schacht, who will now serve as interim chairman for a year. Russo spent only nine months at Kodak, after 20 years with Lucent and



Patricia Russo takes over the top job in her return to Lucent.

AT&T. Russo is viewed by observers as a Lucent "insider" who is familiar with the company's operations, markets, product lines and problems. "Pat brings deep knowledge of our industry and our customers, coupled with the ability to lead a large organization through change," Schacht says.

Microsoft wants depositions kept from view

■ Microsoft has asked the U.S. District Court judge overseeing the ongoing antitrust case against the software maker to vacate a previous order that depositions in the lawsuit be open to the public. The case now involves only the nine states and the District of Columbia that refused to sign a proposed settlement agreed to by Microsoft, the U.S. Department of Justice and nine other state attorneys general. Microsoft argued in a court document filed last week that the previous ruling which ordered public depositions involves a federal statute that pertains only to cases in which the U.S. government is a plaintiff. In other words, now that the Justice Department has agreed to settle its antitrust claims against Microsoft, the statute no longer applies, the company contends.

Viruses target Shockwave, Microsoft's .Net

Last week antivirus software vendor Sophos identified the first known virus that uses Macromedia's Shockwave Flash files to transmit itself to other Flash multimedia files. Sophos had received the virus, which it dubbed SWF/LFM-926, via anonymous e-mail. SWF/ LFM-926 is not deemed to be an immediate threat because it is not "in the wild" infecting systems, nor does it do anything particularly damaging, such as delete files. But virus researchers worry that it is the harbinger of more destructive viruses to come. Meanwhile, the first virus to target Microsoft's .Net platform was also identified last week. Called W32/Donut, this proof-of-concept virus, which apparently originated in Czechoslovakia could affect .Net software running on Windows 2000 or XP.But it does no more damage than infecting .Net files with the message: "This cell has been infected by dotNET virus!"

EDS sues Ariba over contract

Computer services provider Electronic Data Systems last month filed a lawsuit in Delaware against Ariba, seeking to end its \$20-million sales and marketing contract that was allegedly breached by the procurement software developer. The companies struck a deal in 2000, forming a group of business-to-business net markets for consortia-based purchasing. EDS claims Ariba allegedly used the alliance to identify new customers and sell licenses to them directly EDS terminated the deal last November, claiming breach of contract.

Response, AperServ deal to be sealed

Response Networks of North Andover, Mass., this week is expected to finalize a deal to acquire AperServ, a Vienna, Va., service provider, in a stock transaction. The details of the deal will not be disclosed. Response CEO Ted Joseph says the acquisition will potentially advance his company's position in the service-level management market. Response's flagship enterprise software product, ResponseCenter, collects data to help companies track application performance across networks. AperServ also tracks performance, but the service it offers monitors service provider performance and lets customers know if service-level agreements are being met. Joseph says the acquisition will have Response competing with Keynote and Mercury Interactive in terms of services, and Concord Communications with its software products.

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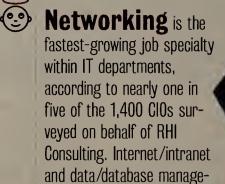
Growth seen for home-based wireless LANs

■ Sales of wireless LANs to home users will soar this year, with products using the IEEE 802.11x technology leading the way, according to a report by Cahners In-Stat/MDR. Worldwide, consumers will buy 7.3 million wireless LAN nodes — which include client and network hub devices — in 2002, up from about 4 million last year, In-Stat says. The 802.11x technology will continue to gain ground against rival HomeRF, the researchers say. While 45% of nodes sold in 2000 used HomeRF, that percentage dropped to 30% in 2001, with 70% of all nodes being 802.11x products.

CERT logs major spike in security incidents

■ Total security incidents nearly doubled in 2001 compared with the previous year, according to statistics released last week by the federally funded computer and network security body, the CERT Coordination Center. While 2000 saw 21,756 security incidents, 52,658 were reported last year. Security incidents, which are defined by the organization as any related set of security events, have risen nearly every year since CERT's founding in 1988, and have risen sharply in the past few years. Reports of security vulnerabilities in software have followed the same trend as security incidents, with a steady upward trend capped in 2001, which featured more than twice as many vulnerabilities as 2000.

The Good The Bad The Ugly





Rudy Giuliani,

ment also scored well.

Time's "2001 Person of the Year," will deliver the keynote address at Computer Associates' annual customer conference April 21-25 in Orlando. Why? If IT executives want to hear politicians give speeches, they can turn on C-SPAN.



The Internal **Revenue Service** is trying to account for more

than 2,300 of its computers that have gone missing over the past three years. At least the agency is assuring the public that none of the computers included sensitive taxpayer information or provided a way for hackers to break into the IRS network.



soap



anning Developing Integrating Testing Implementing Managing Stating

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Top ASP vows Chapter 11 isn't the end

BY JENNIFER MEARS

The application service provider market is ringing in 2002 with one of its marquee names, USinternetworking, in Chapter 11 bankruptcy protection— not good news for an industry whose customer perception has already been marred by a raft of failures.

One of the best-known ASPs, USi led the market in 2000 with more than \$100 million in revenue. And while its Chapter 11 filing is part of a prenegotiated plan to receive additional funding, it's likely to cast an even greater pall on the already tainted ASP name.

At the same time, analysts and ASP customers remain bullish on the concept of delivering software as a service. IDC says it is seeing a growing interest in ASPs among enterprise users. What can be gleaned from the USi filing, though, is that the first-generation ASP model has faltered, making way for a new lot of ASPs.

"This initial crop of ASPs — the USis, the FutureLinks — really went out of the gate with a lot of wild-eyed enthusiasm and, in a lot of cases, with some poor business assumptions," says Laurie Mc-Cabe, a vice president at research firm Summit Strategies.

For example, USi opted to build its own data centers, enabling it to provide corporations with end-to-end service, but also saddling it with millions of dollars in debt. Slowerthan-expected customer adoption and a sluggish economy made it impossible for USi to bring in the revenue it needed to pay its obligations. Despite a \$300 million cash infusion from investors such as Microsoft in 2000, it ended up filing Chapter 11 last week because of its inability to work out agreements with its creditors to erase some \$120 million in debt from its balance sheet.

However, it is going into the bankruptcy process with a majority of leaseholders and twothirds of its bondholders onboard, a USi spokesman says. USi

Rocky times for USinternetworking

Lays off 250 employees, about 25% of its

workforce, and says it is narrowing its focus.

USi navigated a turbulent 2001:

Lays off 150 employees, about 11% of its workforce.

October

 Gets a \$100 million promise from Bain. contingent on a balance sheet restructuring.

 CEO Andrew Stern says he hopes USi can get through the restructuring without filing

for Chapter 11.



66 USi will emerge from the reorganization plan a much stronger company. 55

Andrew Stern CEO, USinternetworking

January Announces it is filing for Chapter 11 with a \$106 million lifeline from Bain provided it can re-emerge from bankruptcy protection.

also has a lifeline in the form of a definitive agreement with Bain Capital for an investment of up to \$106 million, once it emerges from Chapter 11.

USi Holdings — a Bain affiliate — initially will invest \$81 million in USi, with an additional \$25 million to be invested when certain business milestones are met. Bain, a global investment firm with more than \$12 billion in assets under management, ultimately will own all the equity in USi. USi expects to emerge from Chapter 11 in the spring.

USi CEO Andrew Stern says service to USi customers will continue uninterrupted and "USi will emerge from the reorganization a much stronger company."The ASP has about \$50 million in cash to fund it through the restructuring period, a spokesman says.

Customers and analysts say the Chapter 11 filing is good news for USi, and for the market in general.

"Certainly the ASP industry has struggled with an image problem, and this isn't anything that will brighten that image," says Amy Mizoras, an analyst at IDC. "But down the road, if USi does emerge a stronger company, regardless of the process they had to go through, I think that image can be improved."

An e-business vice president at one of USi's e-commerce customers, who asked not to be named, agrees the filing can be considered a positive step.

"This will clean off their debt and give them an influx of capital from Bain," he says, adding that his firm is working on new development projects with USi. "That's the strength of our commitment to them."

Nevertheless, there is no denying that USi's news will make an already wary customer base more skittish. Consider that its Chapter 11 filing follows the closure of FutureLink in August and Breakaway Solutions in

Those big names were added to a list of dozens of others, including Agillion which closed in March of last year, and Pandesic, a joint venture of Intel and SAP, which was the first well-known ASP to succumb when it closed its doors in 2000.

USinternetworking: www.usi.net

Foundry shifts its switch strategy

BY PHIL HOCHMUTH

SAN JOSE — Foundry Networks this week will announce highdensity 10/100, Gigabit and 10 Gigabit modules for its FastIron switches, expanding the products' role in enterprise networks, while costing 25% less than the company's current enterprise core/datacenter switch.

Foundry says Fastlron switches have a common chassis and software that makes configuring and managing the boxes easier and less expensive. By packing more ports onto the Fastlron modules - thanks to new chip technol-

ogy — Foundry says it can offer companies a backbone switch that is more powerful and less expensive than its current flagship enterprise box or competitors' offerings. Foundry quoted a basic Fastlron configuration with 56 Gigabit ports at \$60,000, whereas one of its similarly configured Biglron backbone switches costs \$80,000. The company claims users should see price savings of between 30% to 50% vs. similarly configured boxes from Cisco and Extreme Networks.

The modules for the FastIron primarily a wiring-closet box in the past — will double the number of 10/100 and Gigabit ports supported among the Fastlron 400,800 and 15000 models, giving them twice the capacity of the Biglron enterprise LAN/metropolitan-area network backbone switch. The eight new modules for the Fastlron 400, 800 and 15000 chassis include two management modules — a singleslot, eight port, mini-gigabit interface card blade, and a dual-slot, 24-port 10/100 module with four mini-GBIC or copper Gigabit ports. For 10/100 connectivity, two 48-port modules are being offered — a dual-slot RJ-45 module and a single-slot RJ-21 Telco interface module.

For Gigabit connections, Foundry is offering a 16-port 100/1000-

Base-T module and a mini-GBIC blade with eight or 16 ports. A sin-See Foundry, page 12

Foundry forges new switch blades

New modules for Foundry's chassis-based FastIron switches offer a variety of connectivity options.

Product	Price
Eight-port GBIC management module	\$8,000-\$10,000*
24-port 10/100, four-port Gigabit managmenet module	\$8,000
48-port 10/100 RJ-45 and RJ-21 modules	\$5,000 and \$6,500
16-port 100/1000Base-T module	\$9,000
Eight-port mini-GBIC module	\$7,500 to \$9,000*
16-port mini-GBIC module	\$12,000
Single-port 10 Gigabit Ethernet module	\$50,000-\$102,000**

*Price is higher with rate-limiting feature.

**Price depends on choice of short- or long-haul optics.



Foundry FastIron 15000



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Partnerships to dominate CA's plans

Company set to work with others on management, security and storage offerings.

BY DENISE DUBIE

ISLANDIA, N.Y. — Computer Associates, once satisfied with going it alone or buying its way into hot new markets, this year plans to lean on powerful partners to launch a slew of ambitious security, storage, management and other efforts.

Fresh off a year full of lawsuits and customer satisfaction issues, the company is trying to clean up its act. It started down that road last year by reorganizing its 1,200 products into six brands (see graphic). CA even unbundled its Unicenter management framework, offering customers more point products to address concerns about interoperability and the high cost of management software.

The next step for CA is to prove itself a capable partner, both for its own good and the benefit of customers who need their CA software to work with products from many other vendors. CA, which pulls in roughly \$5 billion in revenue annually, this year plans to team with the likes of AOL Time Warner, Microsoft, RSA Security and EMC to expand its technology offerings and its reach, according to CA exec-

A finger in every pot

Computer Associates last year sorted its more than 1,200 products into six brands.

Brand	Technology/Sampling of products
Unicenter	Enterprise management: Unicenter Network and Systems Management 3.0, Unicenter Management for Web Servers and Unicenter Management for SAP R/3.
eTrust	Security: eTrust InoculateIT, eTrust OCSPro and eTrust Access Control.
BrightStor	Storage: BrightStor ARCserve Backup, BrightStor Storage Resource Manager and SurvivelT.
AllFusion	App lifecycle management: ERwin Modeling Suite, Endevor and Process Continuum.
Jasmine Advantage	Data management/app development: COOL:Gen, COOL: Joe and COOL:2E.
CleverPath	Portal and business intelligence: CleverPath Portal, CleverPath Predictive Analysis Server and CleverPath Reporter.

revenue from the first while CleverPath, AllFusion and Jasmine

Unicenter, eTrust and

the CA Smart certification program, which the company initiated last July to ensure that other vendors' software and services work with CA's. Artzt hopes to triple the number of partners in the next few months.

Initially, CA was focusing on getting partners' products to work with its e-business wares, but the Sept. 11 attacks shifted the company's focus to security and other infrastructure technologies, such as storage, says Tarkan Maner, a CA marketing executive. While IT spending has dried up

The company declined to be more specific.

CA is already among the top sellers of security products and leads in categories such as authentication, authorization and administration, where it owns 15.5% of the market, IDC says. But the company, which is especially strong in the mainframe security market, will try to extend its expertise across other platforms and try to boost its name recognition in security beyond what it's already doing, such as running eTrust TV ads.

75% per year, so companies just can't throw people at the problem. They need better management tools," says Philip Treide, a CA vice president who focuses on storage.

The company had a little more than one-third of the market as recently as 1997, but Gartner says CA has since fallen behind EMC, which controls 25% of the market vs. CA's 12%.

While CA works with EMC on some fronts, CA next month plans to release its first stand-alone storage-area network management software product that will compete with EMC offerings.

CA is expected to work further with others, such as Brocade, to make sure CA's storage management software is effective in multivendor environments.

Deal maker

Other big names CA may ink deals with include AOL Time Warner and Microsoft.

A potential deal between CA and AOL Time Warner would have the two providing personal security, content protection, and content distribution products and services in coming months.

In March, CA may reveal partnerships with Microsoft and Sun to provide customers with Web services offerings via the companies' respective. Net and Java technologies. CA declined to provide further details on ei-

CA's potential partnerships will suit many CA customers well, particularly those whose heavy investments in CA mainframe and other products essentially make them "prisoners in the CA world," says Jean-Pierre Garbani, an analyst with Giga Information Group.

"They want to be considered an IT department store, but it takes a long time to change an image," he says, referring to the company's bullying past.

Still, he says efforts by CA to change the way it does business are encouraging. He points to the company's creation of its Customer Relationship Organization, which assigns service - not sales — representatives to manage relations with customers.

According to CA's Artzt, the goal is for the company to be "the one vendor face to customers." And to be a friendly face at that.



Fartnerships don't necessarily replace acquisitions, but in order to accelerate our growth, we're concentrating strongly on partnerships. 77

Russell Artzt

Executive vice president of research and development, Computer Associates

utives during a series of recent briefings with Network World

"Partnerships don't necessarily replace acquisitions, but in order to accelerate our growth, we're concentrating strongly on partnerships," says Russell Artzt, who co-founded CA in 1976 and is now overseeing the company's partnering efforts.

"CA products are already in 95% of the Fortune 500 companies, and these partnerships will open up new sales opportunities across all the brands,"

To date, 95 partners have joined

in many areas, companies at least appear to be spending on security technologies, he says.

Bolstering security

In February, CA plans to use RSA's annual conference to announce an initiative, code-named CA Genesis, which will exploit four resource centers scattered around the globe, and partnerships with government and academic agencies to detect viruses before they strike customers' networks. The resource centers will research potential virus threats and possibly provide automated virus updates as a paid service.

CA currently partners with RSA on eTrust Single Sign-On software and plans to broaden its relationship with RSA in coming months. CA also has plans to work with more companies on security management.

"It's not like we're missing one big piece so we're focused more on partnerships than acquisitions here," says Simon Perry, a CA security executive. "We're at an evolutionary, not revolutionary, stage in this market."

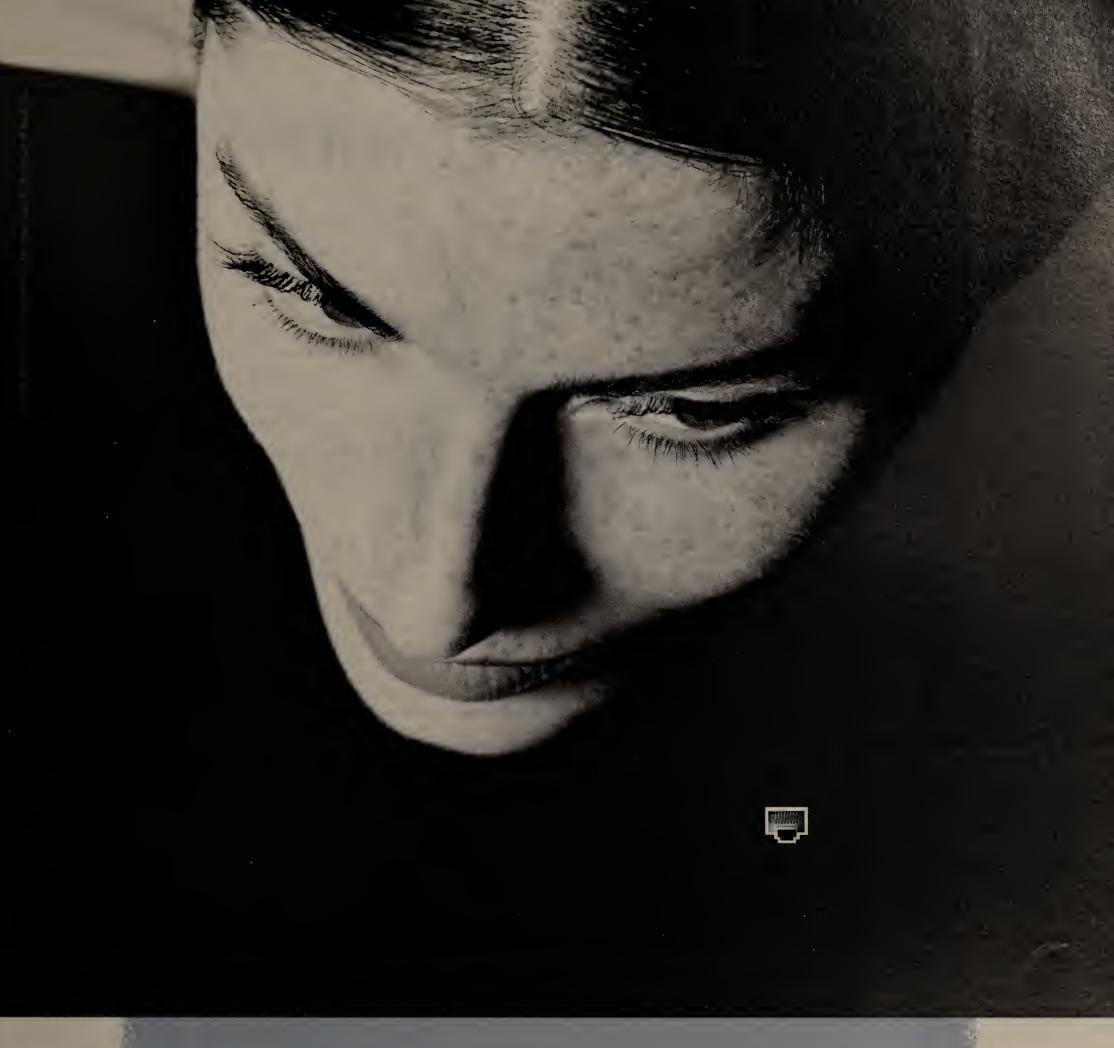
CA will also look to expand its management products for backup and storage.

"Storage needs are growing



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You see a Voicemail waiting on your laptop. So now you can share and respond to information however you want. It's possible when Avaya transforms your company's voice and data systems by getting them working together. Reliably. Securely. With our innovations in voice and in-depth expertise in data, you stay accessible, you stay connected. Find out why more than 90% of the FORTUNE 500® use Avaya communications to power their business, visit avaya.com/nov/two.



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Web services making headway in large firms

But Giga Information Group survey cites security concerns among users.

BY JOHN FONTANA

Interest in Web services, primarily for integrating disparate corporate applications, is picking up in many large corporations. But users are keeping projects simple in light of the nascent technology's shortcomings in areas such as security, according to IT executives and analysts.

Many large companies are finding that Web services, which are built using a variety of emerging standard protocols based on XML, are perfect for creating interfaces that link legacy applications regardless of the platform. But users are taking a cautious approach, and most Web services projects are being conducted internally or with a few trusted partners, according to a recent Giga Information Group study.

The study also found users are leery about developing Web services-based applications, which natively support XML Web services protocols, because protocols for security and transactional integrity are not yet available.

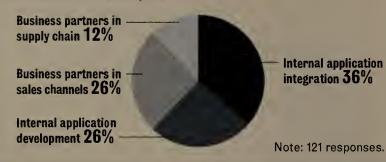
The study concluded that users don't view Web services as revolutionary, but as incremental refinements that represent the evolution of existing application platforms.

"More than half of the enterprise Web service usage is around integration," says Mike Gilpin, a

Evaluating Web services

A survey by Giga Information Group shows that most corporations initially plan to use Web services internally as they work to understand the technology.

What is the primary target for your Web services development?



Giga analyst and author of the study. "Web services is really just an interface mechanism. It's the ability to present one simple interface to a complex business process inside a company."

Gilpin likens Web services to a McDonald's drive-through. "A lot of stuff happens inside the restaurant you don't see or want to see." He says customers interact with the order system and pick up the results at the window without any knowledge of the series of processes needed to fill the order.

With Web services interfaces, data can be translated from native formats into XML documents and vice versa, and transported using XML-based protocols, such as the Simple Object Access Protocol (SOAP), over the Internet or an intranet. The idea is to help clean up the integration mess in heterogeneous environments.

"Web services let us present our services in a nonproprietary way and provide standard access as opposed to private connections," says Tim Hilgenberg, chief technology strategist for management consulting firm Hewitt Associates. Later this month Hewitt will flip the switch on a Web service that provides access to its mainframe-based benefits system.

"We can't dictate platforms to customers so our Web service makes us platform independent, gives us ubiquity in connectivity [via the Internet], and with XML and SOAP we avoid proprietary formats," Hilgenberg says.

Customers access Hewitt's Web service from their own human resources portals. An XML data packet wrapped in a SOAP envelope is sent over HTTP to Hewitt's IBM WebSphere application server, where a Java servlet unwraps the envelope and initiates a CICS transaction on the mainframe. The mainframe returns XML-based data to WebSphere, where it is wrapped in SOAP and sent back to the customer.

"To create a benefit summary, it is so much easier to have a programmatic interface than to screen scrape off a Web site," says Hilgenberg, who will present a case study at this week's Next Generation Web Services Conference in San Francisco.

Hewitt also has added its own security using digital signature technology built with IBM's XML Security Suite and a certificate system to authenticate users.

But Hilgenberg admits that security for Web services "is not as mature as we would like it to be."

Security is a glaring deficiency that is holding back the development of more sophisticated Web services with greater business value, such as integrating supply chains and procurement systems across business partners, the Giga survey found.

That may change as security mechanisms evolve to allow for more sophisticated applications. The World Wide Web Consortium is working on XML Encryption and XML Signature protocols. Microsoft has proposed WS-Security, and IBM is working on HTTP-Reliable. The Organization for the Advancement of Structured Information Standards is working on the Security Access Markup Language and the Access Control Markup Language, as well as a Web Services Component Model for building electronic business applications based on Web services. ■

Correction

The graphic in the story "New technologies give twist to cabling" (Jan. 7, page 17) had the data for single-mode and multimode fiber-optic cabling inadvertently switched.

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Foundry

continued from page 8

gle-port 10 Gigabit Ethernet blade also will be introduced.

The modules are based on Foundry's new ASIC dubbed "JetCore," which on a single circuit handles the job that required nine previous-generation ASICs, the company says. This lets Foundry double the port count for each FastIron. The high-end FastIron 15000 can now support 232 Gigabit Ethernet ports or 672 10/100 ports.

Along with greater port density, the ACISs bring new features to the Fastlron line, such as rate limiting (for controlling bandwidth on a per-user level) jumbo frame support; Layer 3 switching; and hardware-based access-control list lookup and enforcement for network security:

With the new modules the FastIron 15000 joins Foundry's BigIron in competing with other backbone switches such as Cisco's Catalyst 6500, Enterasys' X-Pedition, Extreme's BlackDiamond and Nortel's Passport 8600. Foundry's BigIron switch was the company's leading competitive product for highend corporations.

Because all FastIron chassis share the same soft-

ware and have interchangeable blades, companies could have an easier time managing and configuring their hardware while stocking fewer spare switch parts. Foundry says this single architecture differs from its competitors, such as Cisco, Enterasys and Extreme, which sell multiple switch models with incompatible parts and disparate software for the enterprise edge, core and data-center locations.

"Foundry is starting to understand that you can't just sell yourself on wire-speed ASICs to enterprise anymore," says Zeus Kerravala, an analyst with The Yankee Group. The recasting of the FastIron as an allin-one enterprise switch that can save users money is the key point. "Generally, Cisco has been the only one to get across those values to customers."

Foundry is tying the Fastlron upgrade into its shift in strategy for its enterprise products by touting the Fastlron as a wiring-closet, backbone and data center switch for corporations. The company's previous strategy was to sell Fastlron switches as wiring-closet and aggregation boxes, with Biglrons in the core and data center. Available modules include the 10/100 RJ-45 and RJ-21 blades, the eight-port GBIC management module and line card, and the 10 Gigabit Ethernet modules. All other modules will be available in March.

Sharpening the edge scalability define the cisco 7600 Series router

Services, flexibility,

TODAY'S IN CAPITAL-**CONSTRAINED WORLD, service** providers and enterprises must reduce the complexity and cost of their networks while at the same time differentiating their services and applications to achieve profitability and sustainable competitive advantage. The Cisco 7600 Series Internet Router provides a single, extensible platform designed to meet these goals.

The Cisco 7600 is a key component of Cisco Systems' high-performance mid-range router product portfolio, where flexibility and breadth of ser-

vices is required within modular, multiprotocol platforms. This addition to the Cisco 7000 family of routers offers varying points of performance, services and density to meet customer needs.

By deploying the Cisco 7600, service providers can offer everything from highspeed IP WAN links to SONET- or Ethernet-based metropolitan-area network (MAN) services, Internet data center connectivity, virtual private networks (VPNs), frame relay and ATM services. At the same time, service providers are able to support different levels of service quality, using the rich QoS features inherent to the platform. It allows network providers to differentiate between "Gold, Silver or Bronze" customers and thus build appropriate pricing models for different market segments.

"We leveraged our most successful platforms, the Cisco 7500 Series and Catalyst 6500 Series, and evolved them into this new platform targeted at the edge of the network," says Amit Sanyal, Cisco 7600's product line manager. "The Cisco 7600 is a high-performance routing platform, with up to 30 Mpps of packet forwarding and bandwidth that scales to 256 Gbps."

Value-added routing

With a range of chassis options, interfaces, and service modules, the Cisco 7600 can play multiple roles in a network. The platform offers WAN bandwidth ranging from DS0 to OC-48 and Ethernet LAN connectivity from 10/100 Mbps to 10 Gbps. Its array of interfaces and high-touch packet services enables the Cisco 7600 to excel in WAN edge and Metro aggregation applications. For Internet data center applications, the Cisco 7600 offers service modules for content delivery and intrusion detection today with storage-area network (SAN) fiber channel connectivity and additional security services planned for the future. With these high-touch service capabilities, the Cisco 7600 offers the application and services flexibility required by customers.

To minimize operating costs, the Cisco 7600 provides a comprehensive network management suite, offering centralized provisioning and element management tools.

Customers can choose from three NEBS-compliant chassis offering three, six or nine slots (see photo). Each provides the option of redundant processors and power supplies for high availability. The FlexWAN modules enable the Cisco 7600 to support most port adapters used with the Cisco 7200 and 7500 platforms, providing investment protection and a smooth transition to a higher performance platform. A range of optical service modules (OSMs) support Packet over SONET, ATM, Gigabit Ethernet WAN and channelized interfaces. Most OSMs also include four Gigabit Ethernet ports to complement the WAN ports.

The Cisco 7600 supports a number of internetworking services, including Multiprotocol Label Switching (MPLS). MPLS features include QoS, Ethernet over MPLS and MPLS VPNs. Cisco will add to the platform Any Transport over MPLS (AToM) features such as frame relay and ATM over MPLS, and traffic engineering features as they evolve. Service providers will be able to build one network while offering different services to different customers, thereby reducing operational costs and capital expenditures on multiple networks.

To address security concerns, the Cisco 7600 supports not only the MPLS VPNs, but also firewall and intrusion detection. The Cisco 7600 pays special attention to



Access Control Lists (ACLs), which are key to security because they enable customers to control access to applications, data and services.

Proven security performance

Many routers lose performance when they are forced to conduct ACL lookups in addition to packet forwarding. Recent tests by Miercom, an independent product-testing lab in Princeton, N.J., demonstrated the Cisco 7600 had no such performance degradation.

Miercom tested a Cisco 7600 configuration with 28 OC-12 ports, a maximum packet-forwarding rate of 30 Mpps and a large ACL with 15,000 unique entries on both inbound and outbound traffic. The test was configured to ensure the Cisco 7600 would have to look at each of the 15,000 entries, because only the last entry would allow traffic to pass.

To assess the effect of the ACL on performance, Miercom first ran the tests using 40-byte packets

with no ACLs applied on any ports and found the Cisco 7600 delivered a maximum throughput rate of 28.7 Mpps. Next, Miercom ran the same test with the 15,000 ACLs applied on all ports. The Cisco 7600 delivered an identical forwarding rate of 28.7 Mpps, proving the ACLs had no effect on performance.

Miercom also tested the effect of ACLs on processor utilization and latency. It found peak utilization and latency were identical whether ACLs were applied or not. (A complete report of this test is available as a printable PDF at www.cisco.com/go/7600miercom).

The performance results in the Miercom tests are a direct result of the Cisco 7600's design. Processing is done by a combination of ASICs and programmable Parallel Express Forwarding (PXF) network processors. Packet forwarding, filtering and many QoS features are implemented in ASICs, meaning they have no effect on central processor utilization. The PXF complex also enables customers to upgrade the Cisco 7600 via software as new IP services evolve in the industry and become available on the platform. This is a huge time-to-market advantage over the length of time required to "spin" a new ASIC.

Bob Collet, chief technology officer for Velocita (www.velocita.com), a leading nationwide broadband networks provider, attests to the benefits of the Cisco 7600. "We utilize an all-Cisco solution including the Cisco 7600," he says. "This minimizes our implementation risk for this network, reduces our overall cost of operations and gives us extensible capabilities for network services and growth."

In summary, the Cisco 7600 offers a compelling story for customers that is unmatched by its competitors. It is a high-performance, scalable platform that supports all the popular LAN, WAN and MAN interfaces. It supports advanced services, such as MPLS and QoS, to enable service providers to offer differentiated services to expand their revenue streams. It offers flexibility with application-specific modules for content delivery, fiber channel connectivity and security. At the same time, Cisco's PXF architecture offers rapid delivery of new features to position service provider and enterprise customers for the future.

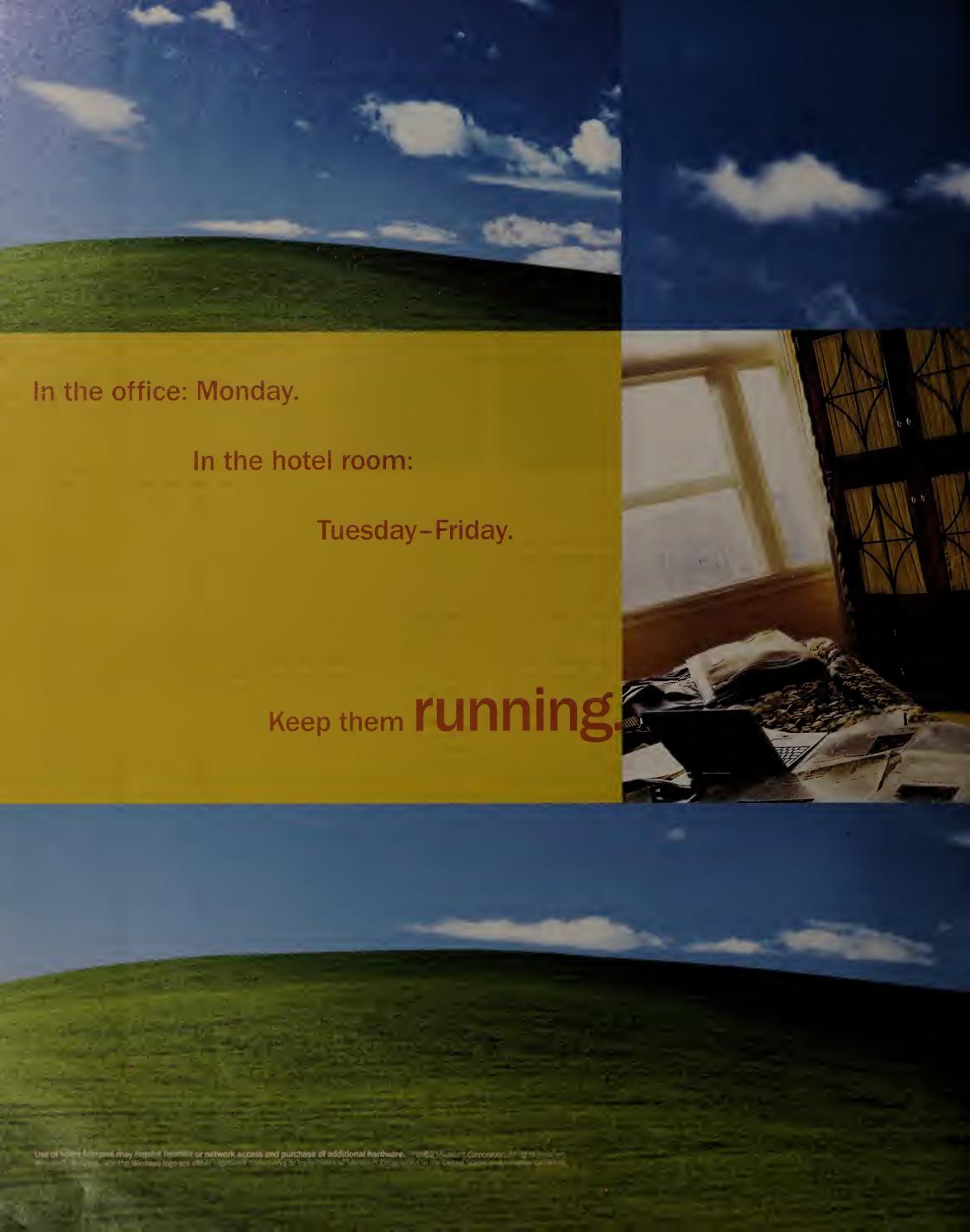
For more information on the Cisco 7600, visit: www.cisco.com/go/7600.

CISCO 7600 SHINES IN ACL TEST

Throughput (M pps) 30 28.7M pps 28.7M pps 25 20 15 10 With 15K ACL entries 5 No ACLs SOURCE: MIERCOM, PRINCETON, N.J.

Latency (µsec) 25 20 15 10 No ACLS 5







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Security

continued from page 1

"If you are trying to assemble your own best-of-breed architecture and pull products and suppliers together, you are assuming any risk of bumping into product incompatibilities," says Phil Schaecter, an analyst with The Burton Group.

Security access management "is not our specialty," Plumtree's marketing manager Nills Gillman says as he describes how the Plumtree Corporate Portal software shares HTTP-based "security tokens" with SSO server software from Netegrity, Entrust, Oblix, IBM and RSA Security.

Typically, the Web SSO software performs the authentication and access-rights management function before a user is allowed through the portal.

For its part, Epicentric leverages Netegrity's SiteMinder and RSA's ClearTrust by linking them into the "credentials vault" in its portal product, Foundation Server 4.0.

The alternative for users is to purchase security and portal components from one vendor, whose portals often have tighter coupling to security. Computer Associates, IBM, Novell and Oracle offer Web portal and security-access controls, and they promote the appeal of this single-source capability.

"We have it all," says Barry Keyes, marketing vice president at Computer Associates, a contender in the portal competition with its Jasmine software. "You don't have to worry about the integration."

The market leader of Web single sign-on products, Netegrity, thinks that argument has merit. Late last year, Netegrity bought portal vendor DataChannel to go into the portal business itself.

"We are creating an enterprise suite by combining SiteMinder access control and single sign-on with a portal," says Deepak Taneja, Netegrity's CTO.

The first version of this product, called InterAction, is scheduled to debut in March. By October, Netegrity plans a second version that will take on more complex security-management tasks, such as provisioning, an area in which CA, IBM and start-ups such as Access360 compete.

Netegrity claims it will continue the Site-Minder technical integration work with its portal competitors. But analysts say there is anxiety among portal vendors because corporations sometimes buy portals based on how well the portals work with the Web SSO product they have.

"They say, 'Look, I already have a system. Just have the portal look out to that system instead of duplicating the configuration and the management, and so forth," says Gary Hein, an analyst with The Burton Group.

Buying it all from a single vendor works for some but not others.

The auto industry's online supplier exchange, Covisint, uses Oracle Portal but installed a separate Web SSO product because Oracle authentication and access management worked only with Oracle applications, such as its database.

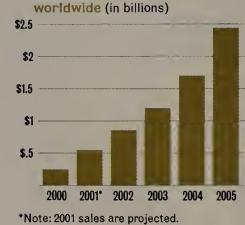
"The Oracle Portal has security, but it just doesn't work with anyone else's product," says David Miller, information security officer at Covisint, which has more than 30,000 suppliers and manufacturers that access the portal using password and identification.

Covisint decided to use the RSA Security

Web portals, Web single sign-on: Two growing markets

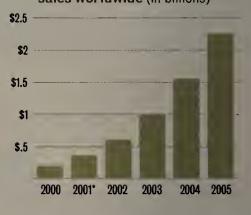
IDC predicts a sharp rise in the market for Web enterprise information portal software, which has been dominated by Computer Associates, BroadVision and Plumtree Software...

Web portal software sales



... while Netegrity and Entrust have been the leading players with products for Web accesscontrol software.

Web access-control software sales worldwide (in billions)



ClearTrust access-control product to centralize authentication in the U.S., Europe and Japan for the growing number of applications available through the portal.

Others find buying integrated portal and security software from one vendor a better approach. Financial planning firm J.P. Morgan American Century bases its portal on CA's Jasmine 2.5.

"With the earlier version, Jasmine 2.0, we had to jury-rig single sign-on," says Bruce Focht, data-mining analyst with the firm. "We put a layer up front where the user could sign on and then would pass that through to the portal. But that is now incorporated into the current version, Jasmine 2.5."

Focht says the firm's earlier effort to tie a portal to a separate Web SSO product had been "a lot more trouble than it was worth."

The firm gives users access to personal financial data plus news feeds and other

Corporations are electing to set up Web portals to unify information access and security controls where once they had sprawling departmental intranets or firstgeneration e-commerce efforts that let trading partners into particular back-end servers. The cost to do this varies widely, according to Forrester Research, whose surveys indicate that it can range from \$20,000 to \$5 million.

"It is a multimillion-dollar project," says Gail Smith, CIO at e-Scotia, Scotia Bank's e-commerce division in Toronto. Scotia Bank selected Epicentric as the portal for what had been separate consumer banking and brokerage Web sites, while depending on the iPlanet LDAP Server and Entrust certificate management for security.

Integrating separate vendor products takes effort in terms of custom coding, Smith says, but she prefers this approach because doing it all with a single vendor "can get you locked in, to a certain extent."

Choosing the mix-and-match approach,

Smith says, makes it all the more important for organizations to demand "open architecture and open systems," whether it be Java or security standards such as the XML-based Security Assertion Markup Language (SAML) being created by the Oasis technical group.

Other large organizations deploying portals agree.

"With Web portals and security vendors, their commitment to standards, such as SAML, is what matters most," says Steve Devoti, manager of directory services at CUNA Mutual Group, which chose Oblix for Web SSO in part due to Oblix's perceived commitment to SAML.

CUNA Mutual, which provides credit unions and their members with financial services through a portal, has to tie multiple applications, including PeopleSoft, Vignette and a hosted service from Yodele ASP, into a unified portal. SAML would make it easier to share authentication and accessmanagement information among different Web SSO and portal software vendors that might support it.

But SAML is a year from completion as a standard, and in the meantime, portal buyers say they will pick products that vendors have tinkered with to work together.

The American Institute of Architects (AlA), which has had its Plumtree Version 3.51 portal up and running for about a year for 10,000 visitors weekly, has made do with Plumtree's simple Web access control. But now that AlA is integrating more of its back-end systems into the portal to provide a wider range of interactive services, it needs a more advanced SSO function.

Giles Jacknain, AlA's portal administrator, says the organization will likely use Netegrity or IBM because these vendors' security products are offered by Plumtree.

"The cost of single sign-on is included in the upgrade to the new version [of Plumtree's portal] so we probably wouldn't look at outside vendors," Jacknain says.

Novell adding portal punch

ovell is readying an expanded portal package that comes with directory and security technologies, and boasts consulting services aimed at getting portals up and running across a company in just 90 days.

The company's Active Information Portal (AIP), which provides end users with customized and secure access to applications and data, builds on Novell Portal Services, a do-it-yourself offering that runs on a Web server and can take months to roll out. Novell, which merged with Cambridge Technology Partners last year, is exploiting the latter's consulting expertise to deliver AIP across NetWare and other networks.

Part of Novell's pitch is to enable customers to set up a portal without necessarily having to invest in a lot of new technology. Those with Novell's eDirectory and DirXML directory technologies, or its iChain authentication and access control software, can build their portals from there. Otherwise, those directory and security technologies will be included with AIP, along with third-party products that Novell declined to specify.

If a customer can take a relationship with a company that it already has and software it already owns and upgrade it into a portal, it will be less expensive than going out to a new company and bringing in new software that it has to learn how to use "says Nancy Tubb, an analyst with Delphi Group.

Forrester Research says large companies spent an average of \$650,000 on portal rollouts last year and the price could rise to \$2 million as more technologies get bundled in Novell says the cost of AIP will vary based on the customer and what pieces of AIP the customer already owns.

- Deni Connor

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ACCESS DEVICES CLIENTS **SERVERS III OPERATING SYSTEMS**

VPN gear provides customized security

NetScreen's new hardware and software allows more precise security parameters to be set.

■ BY TIM GREENE

SUNNYVALE, CALIF. — NetScreen last week introduced VPN gear that makes it possible for users to tailor-fit protection for specific network resources without having

- Open source software company Red Hat has released a version of its Linux operating system for Intel's 64bit Itanium processor. Version 7.2 of Red Hat Linux for the Itanium processor uses the 2.4.9 Linux kernel and incorporates the same feature set as the general-use version released in October. The Linux kernel used for the Itanium release is intended for use with computers that have more than one processor, as in high-end servers. Compag, Dell, Hewlett-Packard and IBM last year said they would ship Itanium-based servers. Linux 2.4 also includes Ext3 journaling, which helps monitor changes to a file, and a logical volume manager to better manage large file systems. It also comes with Sun's StarOffice 5.2 office applications, and compilers for C, C++, Java, Python, Perl and PHP interpreters. Red Hat Linux 7.2 for Itanium is available for \$500. www. redhat.com
- Remote monitoring vendor RLE **Technologies** has Web-enabled its network equipment monitoring hardware. The Falcon monitors operating parameters such as temperature and equipment status in server and communication rooms. It notifies network administrators of problems via e-mail, SNMP traps, pager, cell phone, dial-up or across the network. RLE has added Web-based monitoring to the Falcon - it accepts an image from any Web camera with an IP address. The live image will then be displayed on the Falcon Web interface. The Falcon is available now starting at \$1,950. www.rletechnologies.com

to buy multiple boxes.

Four new NetScreen VPN appliances have at least four 10/100 Ethernet ports, each of which can oversee a separate, independently configured security domain. Some competitors' gear comes with just three ports, limiting users' ability to customize protection.

Previously, if NetScreen users wanted to set up more than three zones they would have needed more appliances, says Jeffrey Dell, security officer for Seisint, a data mining company in Boca Raton, Fla., that uses NetScreen firewall/VPN devices. "[The new equipment] allows us to do projects that require a lot of ports and do it for a lot less money."

NetScreen VPN appliances used to sort traffic and switch it through only three possible ports, each preset for a single type of traffic: trusted, untrusted or traffic destined for an isolated network segment called the demilitarized zone (DMZ) that typically includes mail servers.

The new appliances, NetScreen-204, Net-Screen-208, NetScreen-25 and NetScreen-50, all have at least four ports, and the Net-Screen-208 has eight. A new version of Net-Screen's operating system, Screen OS 3.1, lets users customize each of these ports with any combination of firewall, VPN and attack-detection.

The four-port boxes could be used to switch among the trusted corporate LAN, the untrusted Internet, the corporate mail server in the DMZ, and a wireless LAN, which is trusted but vulnerable to drive-by hacking.

Ports on other vendors' equipment, such as Cisco's and Nokia's, can also be customized. Cisco's gear is more difficult to configure than the new NetScreen boxes, and Nokia's attack detection is less flexi-



More online!

Read about VPNs and firewalls in a white paper from NetScreen titled Next Generation Security Solutions for the Braodband Internet.

DocFinder: 7526



The NetScreen-208 boasts eight ports, which allows for greater flexibility in protecting the network.

ble, Dell says.

Comparable competitors' gear, such as Nokia's IP330, has only three ports. The next size up is Nokia's modular IP440 that supports up to 16 ports, which may be overkill for some sites.

NetScreen-204 and -208 are fixed-configuration boxes that can handle 1,000 IP Security VPN tunnels and 128,000 total IP sessions. NetScreen-204 handles 200M bit/sec of VPN encryption and has a firewall speed of 550M bit/sec.NetScreen-208 has a 400M bit/sec firewall and encrypts at 200M bit/sec. Throughput on a Nokia IP440 is 176M bit/sec.

NetScreen-204 and -208 are available with Screen OS 3.1 and cost \$10,000 and \$15,000, respectively.

NetScreen-25 supports 20M bit/sec VPN encryption and 100M bit/sec firewall protection. NetScreen-50 supports 50M bit/sec VPN and 170M bit/sec firewall. A SonicWall Pro200 delivers 200M bit/sec firewall and 25M bit/sec VPN throughput.

NetScreen-25 and NetScreen-50 cost \$3,500 and \$6,000, respectively, and are available with Screen OS 3.0. They will be available with Version 3.1 by midyear.

NetScreen: www.netscreen.com

Alcatel offers VolP pack for remote branches

BY PHIL HOCHMUTH

CALABASAS, CALIF — Alcatel last week announced an IP voice product bundles for enterprise branch offices aimed at letting users tie together remote and central phone networks over data WAN connections.

The OmniBranch packages are aimed at offices with as few as 10 but as many as 100 users, and come with Alcatel OmniAccess 512 routers and OmniStack24 workgroup switches. The packages could be used to quickly deploy a centralized voice-over-IP network, with an IP PBX at a central site and a mix of IP and traditional phones in branch offices. These deployments would require an Alcatel OmniPCX 4400 IP PBX running in a central site providing call control and application features to the branch office.

Alcatel says its voice-over-IP equipment will let businesses set up a mix of IP and digital voice lines at branch offices. This is done with the OmniPCX 4400, which can provide call control for IP and digital lines, and the OmniAccess routers, which can trunk digital phone lines and route IP traffic.

For sites with up to 10 end users, an OmniAccess router would be configured to support 12 IP phone lines, four ports for analog phone and fax devices, and two trunk lines to the public switched telephone network (PSTN). The 50-user branch package supports 12 digital phone connections, 12 analog connections and 36 IP connections. The 100-user bundle provides 58 IP voice connections, 64 digital connections and 24 analog links.

According to Alcatel, the 50- and 100-user versions can supply back-up voice connectivity and PBX functions to a remote office in the case of a WAN link failure. The routers in the OmniBranch 50 and 100 packages come with an ISDN port configured as a back-up connection to the PSTN. Software also lets branch offices keep features such as call transferring in case a WAN link to a central OmniPCX is lost.

The packages are comparable with branch-office voice-over-IP offerings from Cisco (Catalyst 4400 Access Gateway Switch), Avaya (Business Communications Server) and Nortel (Remote Office Communicator).

The 10-user branch package costs \$7,000, while packages for 50 and 100 users cost \$11,170 and \$34,025, respectively. Packages do not include Alcatel IP or digital telephones. All three are available now.

Alcatel: www.alcatel.com

wired wixdows Dave Kearns



Giving HP's Fiorina the network MVP nod

bout this time every year for the past five, I have handed out the Wired Windows' Networking Most Valuable Player award to the people who, in my opinion, has done the most to further their organization's progress in the net-

work or directory services arena.

Previous winners have been Novell's Eric Schmidt (1997), Directory Enabled Networks co-chairs John Strassner and Steven Judd (1998), Bowstreet's Frank Moss and Jack Serfass for Directory Ser-

vices Markup Language (1999), and Radiant Logic's Michel Prompt for his work on virtual directory servers (2000). This year's winner is a first — she's getting the award for work on the hardware front.

Hewlett-Packard CEO Carly Fiorina is my choice for Networking MVP for 2001. There's no trophy, just the bragging rights.

Fiorina deserves the award for the outrageous (as seen by the Hewlett and Packard heirs) move of negotiating a buyout of Compaq. Anyone familiar with her, familiar with HP and has at least a nodding acquaintance with the network market had to know that a move like this would happen.

HP's computer business was heavily tied to its HP/UX version of Unix. Any initial success in the PC network server market (HP Netservers won many a "best in class" award five years ago) has gone down the tubes as quality began to suffer. Right now, Compaq has the best reputation for Intel-based server hardware. By acquiring that expertise and image for HP, Fiorina immediately places her company at the top of the server list once again.

HP has had the lion's share of the printer market for decades, it seems, but its share of the market keeps shrinking. It's also been a major player in the scientific instrument field, but that market is also shrinking. For HP to continue as a successful — or even viable — company there needs to be new products serving new, growing markets such as the PC server market.

Fiorina has not let the parochial interests of the HP scions deter her vision of what the company needs. I don't know how the shareholder vote will eventually turn out on the acquisition issue, although I do believe I know how it should turn out. I know who the good guy is in this situation, and she's getting my vote.

Kearns, a former network administrator, is a freelance writer and consultant in Silicon Valley. He can be reached at wired@vquill .com.

Tip of the Week

Google, the Web search engine, has just released the index to 20 years' worth of Usenet news postings. Groups.google.com builds on the pioneering work of DejaNews, which was acquired last year by Google. It's fascinating — If sometimes embarrassing — to see your words come back to haunt you. Go ahead, search for your posts.



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Net Results

Remote access receives a boost

Netilla Virtual Office offers an easy way to access network applications and data over the Web.

■ BY PAUL FERRILL

Remote access has moved up the list of priorities for many network managers. Traditional products — including remote dial-up, VPNs and dedicated WANs don't cut it because of high cost and slow speeds. Turnkey solutions with low administration and maintenance costs have the highest appeal.

Netilla Networks recently debuted Netilla Virtual Office, a turnkey remote access product built around Windows 2000 Terminal Server and a Linux-based access box. Netilla lets any application that works with Terminal Server function over the Web. All network traffic uses 128-bit Secure Sockets Layer security for maximum protection. User authentication is handled on a pass-through basis to a standard Windows NT domain or a Remote Authentication Dial-In User Services server. Future releases will support Lightweight

- The nonprofit Software Productivity Consortium recently received \$3.4 million in federal funds to create a telework demonstration lab, initiate pilot programs, and conduct related research to demonstrate how deploying high-bandwidth (at least 10M bit/sec) Internet access will spur telework growth by enabling online video collaborative applications.
- Citrix Systems recently released Citrix Secure Gateway, an add-on to Citrix MetaFrame XP for Windows or MetaFrame for Unix, Citrix's application server and management products. CSG lets users access serverbased applications over the Web via Citrix NFuse application portal software. CSG provides secure Web access to applications by functioning as an Secure Sockets Layer gateway between MetaFrame servers and Citrix ICA client devices. The product is available to MetaFrame customers at no cost. www.citrix.com

NetworkWorld

Directory Access Protocol and Kerberos authentication periods.

Once you start an application using Netilla Virtual Office, it looks as if you're running it on a local machine. Netilla delivers one of the simplest solutions available, and it is worth a look if you need to give your teleworkers seamless, secure access to network applications from a browser.

Installation included

To ensure Netilla Virtual Office is configured correctly, Netilla only sells it through value-added resellers and system integrators. A Netilla technician helped configure the product for our network.

Our installation was completed in less than an hour, including configuring a handful of applications. We tested the box on a small network connected to the Internet using a DSL modem and a Linksys BEFW11S4 four-port hub/router. We configured the router to treat the Netilla Service Box (NSB) as a demilitarized zone host, so all inbound Internet traffic would pass directly to the IP address of the Netilla box.

To complete the configuration, Netilla uses a site survey form to gather necessary information including IP addresses of the internal network, gateway interface, DNS servers and a dedicated IP interface for the public interface of the NSB.

Next, Netilla configures the NSB prior to shipping it to the customer. On arrival, there's little left to do to get the box up and running. Some testing is required to make sure the DNS has been configured properly and that the box can be seen from outside the firewall. You must install Windows 2000 Terminal Server on the server that hosts the applications, and you must obtain one Microsoft Terminal Server Client Access License for each concurrent user connected to the Netilla box.

All in the browser

Once the NSB is configured, there should not be any need to touch the box again. All administration functions use a Web brow**Netilla Virtual Office**

Company: Netilla Networks (732)764-8858 **Cost:** \$2,000 to \$3,000 depending on configuration; \$600 per month for 10 users as a service. Pros: Simple administration of applications for delivery **RATING** over the Web. Cons: Does not support user groups.

What's the score?	Netilla Virtual Office
Functionality 30%	4.5
Administration 30%	3.5
Ease of use 20%	4.5
Installation 10%	4.0
Price value 10%	3.0
TOTAL SCORE	3.9

Individual category scores are based on a scale of 1 to 5. Percentages are the weight given each category in determining the total score. ■ Scoring Key: 5: Exceptional showing in this category. Defines the standard of excellence) 4: Very good showing. Although there may be room for improvement, this product was much better than the average. 3: Average showing in this category. Product was neither especially good nor exceptionally bad. 2: Below average. Lacked some features or lower performance than other products or than expected 1: Consistently subpar, or lacking features being reviewed.

ser from the internal network or remotely via the Web.

Unfortunately, the first iteration of Netilla Virtual Office doesn't support user groups, requiring you add to each user by hand, as well as specify what service each user will start with (My Admin, My Apps, My E-Mail, My Files), whether separate windows will be used for different applications, and whether to flush the application password cache when launching applications.

Administering applications is a breeze. Information needed to configure an application is stored in the directory on the server along with the executable file. Giving users access to a particular application is a matter of selecting the user name from a list and clicking on an add button.

Netilla Virtual Office also includes a remote control feature that eases management by making all the standard Windows functions available through a Web browser.

Beyond application serving, My E-Mail provides a Web-based interface to any Internet Message Access Protocol-based e-mail server.

User experience

The true measure of success of any remote access product comes down to ease of use and performance. Netilla's ease of use is top-notch. It presents applications as icons similar to a standard Windows desktop. When you launch applications or access files, the interface is identical.

Using Netilla Virtual Office makes it possible to leave large applications on the server and not on a local system, which could be most practical for serving custom or line-of-business applications. The My Files tool makes it easy to move files between your local hard drive and a remote network drive.

We tested the access from different types of Internet connections from a 56K dial-up line to a T-3 dedicated line and found the speed more than adequate. Over dial up, response times were slower but the product was still usable.

Ferrill is a freelance writer in Lancaster, Calif. He's been using and writing about networks for more than 15 years. He can be reached at Paul.Ferrill@verizon net.



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A SilverBack exec eyes midsize customers

Originally a founding member of the MSP Association, SilverBack Technologies last year stopped providing most of its outsourced management services and instead began focusing on selling its software directly to small and midsize corporations. The company changed its business model in January 2001 when Concord Communications executive Daniel Phillips joined the SilverBack management team as CEO and chairman. Phillips recently spoke with Network World Staff Writer Denise Dubie about why SilverBack made the move from service provider to software vendor and how the company plans to compete in the future.

What would you say is one of the greatest challenges facing SilverBack and other network management software vendors such as Computer Associates, Tivoli and Hewlett-Packard? I had been thinking for the past few years, when working with companies such as Concord, Micromuse, Computer Associates, Tivoli and Hewlett-Packard, about how we were all struggling at making software management products accessible to [midsize] customers, or the lower-end enterprise, rather than the Fortune 1000



companies. [Those companies'] products were designed years and years ago. They are very large, very complex and very expensive products that take an extremely long time to deploy and require a large and very sophisticated IT staff. Basically, I saw what a big challenge it was and is for IT management companies that started with software years ago to get that same functionality to midtier customers.

How does SilverBack's software management product differ from those designed years ago?

We have an architecture and a technology that allows us to deliver tightly integrated fault, asset, performance and security monitoring for network, systems and applications on an appliance that is easy to install and costs less than others out there. The appliance resides on the customer site, and [SilverBack]

remotely updates and maintains the software, without managing the customer's IT infrastructure. We take away the most complex part of managing IT software, which is the administration, management and maintenance of the software. In terms of the bottom line, the cost of the product is less, but more important in terms of the consulting, training and maintenance budget for the IT staff, the

See SilverBack, page 22

Takes

- Sygate Technologies has announced Sygate Personal Firewall Pro 5.0 for desktop protection against hackers. The latest version monitors outbound connections for malicious programs. Sygate Personal Firewall Pro 2.0, which costs \$40 per seat, will ship Jan. 21. www.sygate.com
- Secure Computing last week announced the Side-winder 5.2 Appliance, a combined hardware/software firewall that comes preconfigured for installation. Secure Computing's first firewall appliance, which starts at \$5,900 for a 25-user license, can be ordered through the security firm or its channel partners. The Secure Computing appliance will be built to order by Dell on its PowerEdge Server. www.securecomputing.com
- President George W. Bush in late December signed into law a congressional resolution that would let health-care organizations delay by one year the previously required compliance date of October 2002 for the first

Health Insurance Portability and Accountability
Act (HIPAA) regulations for electronic data standards.
HIPAA will set tough rules for how the healthcare industry
and its business partners must protect patient data. The
Department of Health and Human Services, which issues
the HIPAA regulations, also says it has no specific date to
issue the long-delayed security regulations for HIPAA,
which had been expected by the end of 2001.

Secure instant messaging software coming for corporate users

■ BY CAROLYN DUFFY MARSAN

The market for secure, business-grade instant messaging software is picking up steam, with several start-ups now offering packages that automatically encrypt real-time chat sessions between users. However, these packages do not yet offer secure communications with users of popular consumer-oriented instant messaging systems from AOL, Microsoft and others.

Among the new entrants into the corporate instant messaging software market is JabCast, which in December shipped the JabCast Secure Realtime Communications (SRC) client/server software suite to trial customers, including several law firms. JabCast SRC provides end-to-end encryption of instant messages without a noticeable time lag, company officials say.

JabCast faces a slew of rivals, including Bantu, Divine Software, lkimbo and Jabber, which are all angling for a share of the rapidly

Secure instant messaging

Vendors offer diverse mechanisms to secure IM:

Vendor	Product	Security
Bantu	Bantu Messenger and Presence Platform	Proprietary encryption or SSL
Divine Software	MindAlign	Proprietary authentication
Ikimbo	Omniprise	SSL encryption
Jabber	Communications Platform	SSL encryption
JabCast	Secure Realtime Communications	DES encryption

growing corporate instant messaging market.

"About 70% of companies have employees that use consumer instant messaging services, and [network executives] are becoming much more aware of the challenges of consumer instant messaging services, including security," says Robert Mahowald, senior ana-

lyst for IDC's Collaborative Computing group.

Mahowald says consumer instant messaging services create well-documented security problems in corporate networks, including the ability for an intruder to drop a worm behind a firewall. He also says the use of consumer instan*

See Instant Messaging, page 22



1/14/02

ow that the season for fantasy football is just about over, maybe it's time to find some other imaginary pursuits. Such pursuits tend to cost less and take less energy than real ones, so they can be taken up with less commitment on my part. In addition, sometimes doing things with one's imagination is the only way they will get done. Thus, this column about effective laws to limit spam has to be limited to imaginary ones.

There seems to be very little likelihood that Congress will soon, if ever, pass meaningful laws regarding unsolicited

Fantasy lawmaking

e-mail. The legislators seem to be paralyzed trying to balance the right of some slime to shout obscenities in my ear and my right to close the door. So far Congress seems to think that the rights of the slime are paramount and has defaulted to an open- (or nonexistent) door policy.

It's not that there is no reason to figure out ways to deal with spam. Since Sept. 11 there has been a significant increase in the amount of spam. Over 90% of the mail to one of my e-mail accounts is now what I classify as spam, unsolicited and unwanted; six months ago it was only 20%. At this rate the power of Internet-based communication will be destroyed by people deciding that wading through the trash is not worth the few legitimate messages found and just opting out of e-mail altogether.

Some states have started to implement

laws on commercial spam that the sender knows is destined for someone within the state. Noncommercial dispatches — for example, spam expressing a political view — may be impossible to regulate under the U.S. Constitution. California and Oregon, at least, have such laws which, so far, have been upheld in court. But I'm not holding my breath for Congress to act, so here are some fantasy laws to fill the gap.

- I'd ensure that there was an opt-out list that people could put their names on the spam industry could set it up, or the government could do so if industry did not do so quickly.
- Any commercial spam sent to an address that had been on the list for more than five days would be a criminal violation subject to a fine of not less than \$100 per recipient.
- Spam that did not include an easy

way to refuse additional messages from the company sending the e-mail (and from the company the e-mail is being sent for) would result in a fine of not less than \$100,000 per mailing.

• Spammers that use an opt-out request to validate an e-mail address for future use would be subject to a fine of not less than \$100,000 per incident, as would those sending spam from a forged source address or knowingly sending spam to an e-mail list instead of an individual.

Well, you get the picture. Make it hurt to be slime. But now back to reality and a full mailbox.

Disclaimer: Reality is a frequent visitor to Harvard, but the above is my own opinion.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

Q A

SilverBack

continued from page 21

whole IT budget, the cost is significantly reduced.

Why did SilverBack change its business model from service provider to software vendor?

SilverBack had a tremendous architecture, but the business model was more of a full-blown MSP.In addition to providing the software, SilverBack had visions of also providing a lot more of the outsourced management of a customer's IT infrastructure. After going on a couple hundred sales calls and meeting with the customers, we realized our real value was our software and our architecture. But it wasn't our ability to also provide outsourced IT management.

There are a lot of other companies out there doing that, a lot of good companies, but we made the decision to focus on our technology. We have two markets we focus on: the first is end users, and the second is service providers that can potentially use our product as a delivery vehicle for their outsourced service. Instead of Silver-Back being one MSP with all the others out there, all of sudden all those MSPs are potential partners for us.

What problems do you see with the MSP business model?

All MSPs are faced with the same trade-offs and decisions that large enterprises face, Do they buy HP OpenView or Micromuse NetCool for their fault [management]? And

do they buy InfoVista or Concord for their performance [management]? And do they buy RSA or Network Associates for their security [management]? Or do they go spend millions of dollars with a Tivoli or CA to get it all?

Another problem with that model is the software needs to reside in the data center so it's central and remote. And the customers need to move their data off-site, which they don't like to do. Then there's the single point of failure in that they typically need to have a T-1 connection to each customer site in order to poll and collect the data. And the end-user customer of that service provider ultimately gives up its control of the IT infrastructure. Lastly, the cost of buying all of those tools and trying to integrate them together and building lots of data centers forces service providers to have a high cost of goods, which ultimately means the fee they charge the customer is exorbitantly high.

How does changing to a software company ensure SilverBack's longevity?

In this economy, for the short term, the rules have changed. And if you look from an end user's perspective, the odds are very, very good you are looking at how to reduce your IT budget. And you are looking at your IT budget, in terms of cost of products you have to buy and line item for hardware, for consulting, for training and for head count

Most ClOs are faced with how to cut 25% out of those budgets, and it's a painful thing to do. We provide software that will allow that CIO to get up and running quickly in terms of IT monitoring and then will be extremely easy to use for a less sophisticated IT staff. For that CIO to not have to worry about the administration of the software — which purely relates to head count — while also providing good IT service at a significantly reduced cost — is a strong value proposition in to-day's economy.

Have you changed your approach to customers in the tight economy?

We made it clear we are a software company with a unique way of delivering maintenance and support. Initially, we were really focused on the small to midsize company that had a handful of point tools. Those customers have made the decision that it's now time to more proactively monitor their entire infrastructure and look at their network and systems and applications as one.

But since the economy has waned over the last few quarters, we're finding there are a lot of larger companies interested in SilverBack. These are enterprises that are in the middle of trying to deploy CA or Tivoli, or to a lesser extent HP OpenView, and may have already spent \$500,000 to \$1 million. They've been trying for six to 12 months to get it up and running and deployed, and they can't continue to wait. What we're able to do in that environment is bring in a product that provides probably 30% of the other products — but it's the 30% of the functionality that the customers are looking for.

Instant Messaging

continued from page 21

messaging services in the workplace prevent the capture of important information into knowledge management systems. By migrating to business-grade instant messaging systems, companies can solve these problems and take advantage of the integration of instant messaging and presence information into other applications, such as CRM and ERP.

Interest in a secure instant messaging system from one of its corporate customers is what prompted biometric ID card manufacturer SyntheSys Secure Technologies to create JabCast and launch a new company to market it. The customer asked SyntheSys to migrate the Jabber open source instant messaging technology from Linux to Windows and to beef up its security.

"Our customer had a problem where somebody from their IT department was snooping on instant messages between the personnel department and CEO of the company about layoffs," says William Tabor, a principal technologist at JabCast. "They came to us and asked if we could make the technology secure."

The end result — JabCast SRC — runs on Linux, Unix, Windows NT/2000 and Compaq OpenVMS. JabCast is a client/server software system that encrypts messages at the client. The server software maintains a database of messages for administrative purposes, but the messages are encrypted there to prevent unauthorized access. With JabCast, users can send unencrypted instant messages to users of AOL, MSN, Yahoo and ICQ instant messaging systems.

Pricing for JabCast starts at \$5,000 for a server and 100-user license.

Rival Bantu is further along with its corporate sales, having shipped secure instant messaging systems to the U.S. Army, Science Applications International Corp., and Johns Hopkins University, among others.

Bantu uses a lightweight Java applet to perform encryption using its own patent-pending technology, but it also supports Secure Sockets Layer.

"All the functionality and all the security is on that applet," explains Larry Schlang, Bantu's president and CEO. "That means there is no client software to install, maintain or upgrade. And it works across different devices, including Windows, Mac, Linux, Unix and wireless."

With Bantu, users can send unencrypted instant messages to users of MSN, Yahoo and ICQ instant messaging systems.

Available as enterprise software or a hosted service, Bantu costs less than \$5 per user per month. ■

THE INTERNET EXTRANETS INTEREXCHANGES AND LOCAL CARRIERS WIRELESS REGULATORY AFFAIRS

Sprint PCS launches wireless e-mail service

■ BY DENISE PAPPALARDO

LAS VEGAS — Sprint PCS announced a new service last week that lets users access corporate e-mail without making changes to their internal application servers.

The wireless service provider — which has some experts raising security concerns launched its Sprint PCS Business Connection Personal Edition at the 2002 International Consumer Electronics Show in Las Vegas. The service lets users directly access the same e-mail application via wireless device that they access via desktop PC

Sprint PCS is teaming with software vendor Seven to offer the service. It does not require internal IT manager intervention, but lets users read, reply and delete e-mail and access contact lists and personal calendars via mobile phone or PDA.

This is the second corporate e-mail service offered by Sprint PCS. The wireless ser-

- AT&T announced earlier this month it is laying off 5,000 employees this year, in addition to the 5,100 that were let go in 2001. The telecom giant says more than half of these employees are in management. The company is incurring a \$1 billion charge against its fourth-quarter 2001 financial results.
- Web-hosting company Cervalis of Stamford, Conn., is stepping up its disaster-recovery and business-continuity offerings with a fully managed, hot-standby site service. The service, available now, provides customers with a mirrored configuration applications and data. Cervalis builds the mirrored site in one of its data centers and then monitors and manages that replica 24-7. The service includes test systems and transition services. The service is available to Cervalis customers, companies hosting Web sites internally or third-party vendors. Pricing is based on user configurations.

vice provider has also been working with Wireless Knowledge, which hosts Microsoft Exchange and Lotus Domino servers within its data centers and lets Sprint PCS customers access these application servers from wireless devices or from their desktop via the Internet. This is a corporatewide deployment and typically involves the IT and the telecom departments from one company says Jason Guesman, Sprint PCS' director of business marketing.

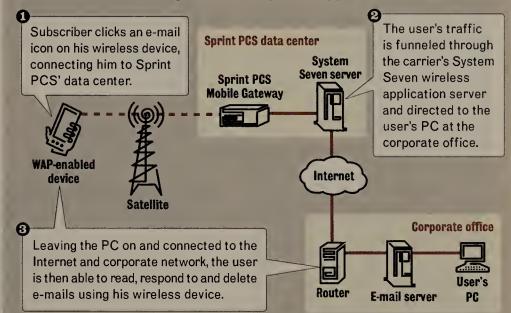
"[Business Connection Personal Edition] lets users simply and cost-effectively access their corporate e-mail without going through complex network changes or involving their IT department," he says.

Sprint PCS has deployed System Seven application servers within their wireless data centers. These servers are connected directly to Sprint PCS' wireless network and the Internet. When a Business Connection Personal Edition customer attempts to access his e-mail account, he is connected to the Seven servers, which establish a secure connection to the user's PC over the Internet using Secure Sockets Layer and a propriety encryption technology, says Bill Nguyen, president of Seven.

The connection typically will pass through a customer's corporate firewall,

Wireless access to corporate e-mail

Sprint PCS' new service lets users access their corporate e-mail servers from Wireless Application Protocol (WAP)-enabled devices, eliminating the need to make changes to the corporate application server.



which is why the system establishes a secure link over the Internet.

The user's PC acts as a proxy server, Nguyen says. Users are required to download client software onto their PC, which must remain connected to the Internet and their corporate LAN. This may not be the most convenient setup for users who travel with laptops. In such cases, Seven recommends downloading the client onto a coworker's PC that typically remains con-

nected to the Internet and the LAN.

Once the connection between the Seven servers and the customer's PC is established, the user can access the corporate e-mail server on a Wireless Application Protocol-enabled device.

No additional software is required on the application servers. While the service offers users an easy way to access e-mail without fussing with synchronization when they return to the office, the method may raise eyebrows from a security standpoint, says Stephen Drake, a program manager at IDC.

"Security is one of the biggest issues across all mobility applications," he says. In this case, users are accessing their corporate network via a secure connection over the Internet that their IT department may not have approved. This could cause problems internally, Drake says. But he also notes that more IT departments are taking measures to approve certain wireless devices and services as employees become more reliant on such services.

The service is expected to be available by the end of March. Pricing is not yet

Allegiance gets a backbone

BY MICHAEL MARTIN

DALLAS — Allegiance Telecom's recent acquisition of Intermedia's Internet assets from WorldCom gives the growing competitive local exchange carrier its own IP backbone, which should reduce its costs.

Having its own backbone could also help Allegiance offer new IP services, says spokesman Jerry Ostergaard.

"We're still in the process of reviewing what this will mean for us," he says.

More importantly, notes Kate Gerwig, a Current Analysis analyst, the purchase includes Intermedia's peering arrangement with other carriers.

"This could really help launch Allegiance into the Tier-1 ISP status," she says.

Allegiance's purchase includes "essentially all" of Intermedia's assets, but not Intermedia's debt, according to a company statement. Additional terms of the deal were not disclosed.

WorldCom was forced to sell Intermedia's assets as part of an agreement made

with the U.S. Department of Justice when WorldCom and Intermedia merged last year. The only assets WorldCom could keep were Intermedia's controlling interest in hosting provider Digex and Intermedia's frame relay network.

The agreement with the justice department gave WorldCom six months to get rid of Intermedia's IP assets, and that deadline was quickly approaching. There had been speculation that CLEC McLeodUSA was interested in the assets last year, but that talk died off as McLeodUSA struggled under a heavy debt load.

Gerwig says there likely weren't many CLECs that could afford to bid for the Intermedia assets. "My guess is Allegiance got them for a song," she says.

Allegiance offers local and long-distance phone services, data connections and Web-hosting services in 36 markets across the U.S. Intermedia's backbone reaches 40 markets, so it should touch the majority of Allegiance's service area, Ostergaard says.

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EYE ON THE CARRIERS Lisa Pierce



Year may bring fewer but better choices

ontinuing from last week's column, let's peer into the crystal ball for a glimpse of what to expect from the telecom industry this year.

Alternatives to incumbent local exchange carrier (ILEC) access will remain stagnant for most of the year.

The slowdown in the economy will cause cable companies and DSL providers to focus on serving the needs of their existing markets, as opposed to continuing to expand geographically. For cable

radware get certain

providers, they will look at adding features and services to markets served by cable modem service. Competive local exchange carriers and DSL providers will follow suit, but they also will carefully evaluate the short- and long-term profitability of individual markets.

ILECs will consider merging with major interexchange carriers. But the regulatory climate won't be receptive to a merger of this magnitude until 2003.

On the services side, the one bright spot is 2.5G mobile wireless services. Service deployment will reach critical mass on a multiprotocol, multiprovider basis later this year. As already seen with the adoption of BlackBerry and instant messaging services, business users who can achieve certain, short-term productivity benefits will constitute the bulk of U.S. early adopters.

However, revenue from 2.5G services in the U.S. will be no more than 5% of total U.S. mobile services revenue.

Most telecom vendors will be chasing fewer dollars, and most will be forced to cut budgets even more than they did last year, which may further affect research and development, and innovations scheduled for market release in 2003. You should look for Telecom vendor bankruptcies and mergers to continue at their current pace at least through June.

In the aftermath of Sept. 11, user interest in remote access and telecommuting will remain strong. Adoption will increase 15% to 20% year over year.

But at a macro level, new installations will lag demand by at least 50% because of continued supplier and support problems.

Use of videoconferencing and teleconferencing will increase by 20% or more.

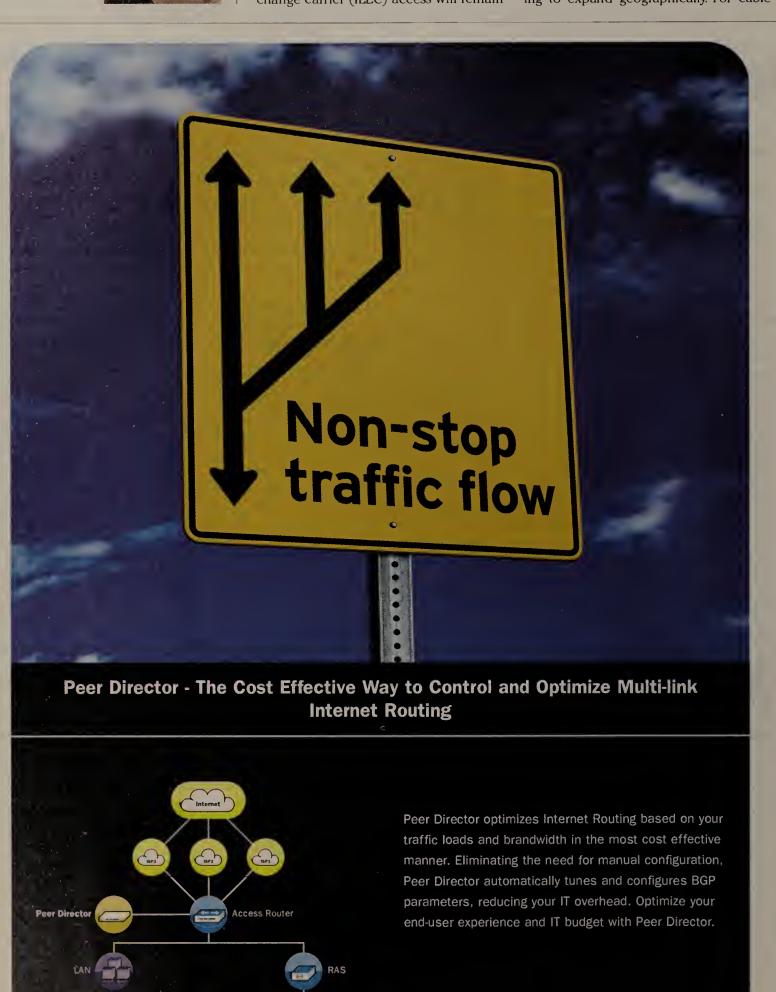
Purchases of security technology and implementation of enhanced security processes will increase, and depending on the nature of the organization's business, will comprise up to 17% of IT expenses this year.

For customers, uncertainty brought about by the Federal Communications Commission's "detariffing" edict requires that they take a close look at outdated language, terms and conditions in contracts. Because many organizations will continue to experience budget pressures, this regulatory change will provide additional impetus for customers to renegotiate contracts and prices this year.

Providers should take the opportunity to create templates for typical provisions, with appendices for customer-agreed prices and above-standard service-level agreements.

My outlook for the year may appear to be grim, but there is also good news: superior value for customers in the form of better thought-out and delivered (but fewer) new products and services. Compared with the deluge of ill-conceived products and services we experienced through the end of last year, it may be a blessing in disguise.

Pierce is a research fellow at Giga Information Group. She can be reached at lpierce@gigaweb.com.



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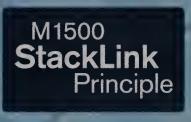
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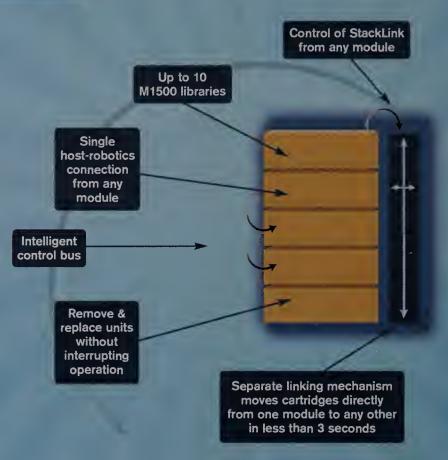
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CDNs Born to speed static images across the Internet, they are becoming integral to e-business.

CDNs are not just for content anymore

I BY JENNIFER MEARS

ontent-delivery network service providers hit the scene about two and half years ago with much fanfare, offering a revolutionary way to move content across the Internet. But since then, these vendors – including market leader Akamai — have traveled a bumpy road as they watched their dot-com customer base erode.

Don't be fooled, though. Content-delivery technology is here to stay, with vendors, analysts and users predicting it will play an important role as organizations become more Web-enabled.

"In the coming year, companies will have to grapple with how they're going forward with Internet applications," says Peter Christy, co-founder of NetsEdge Research Group. "So they'll also start grappling with how do you apply the same kind of technology that made CDNs work to help make complex enterprise applications work."

CDNs aren't just for content anymore. The underlying problem that led to the development of CDNs — bottlenecks on the Internet — remain. That means a similar solution will be needed to create a smooth platform for the transmission of applications over the Internet. It's just that the basic CDN technology will become smarter and more complex.

Expect CDNs to offer more support for XML caching, as well as Java processing at the edge. CDNs will also have to support Web services protocols such as Simple Object Access Protocol (SOAP) and Universal Description, Discovery and Integration (UDDI). Other, more intelligent services will have to be integrated into thousands of edge servers, including authentication, access rights and the sending of content as determined by a user's location, called geotargeting.

Smarter services are already emerging. Digital Island and Akamai last month each unveiled technology to better support business transactions. Their focus, and that of other CDNs such as Speedera and Mirror Image, is to prove that they can offer reliability and scalability for important enterprise applications, beyond the static-image delivery which they started.

CDN evolution

CDN technology originally was designed to improve the performance of Web sites by pushing graphics and embedded images out to a net-

work of edge caching servers, thus speeding transmission times by delivering that content from the server geographically closest to the end user. However, as enterprise use of the Internet increased, demands increased.

Companies realized they could save money by putting more of their Web sites on a CDN, getting increased reliability and scalability without expensive hardware.

Security software vendor McAfee.com uses Akamai to provide quick software downloads to its customers and has cut costs dramatically. McAfee CIO Doug Cavit wouldn't be specific about the savings, but says he ditched about five dozen servers at collocation facilities and runs about 60% of his traffic off the Akamai network.

While McAfee uses Akamai's FreeFlow service, which pushes static content to the edge, other companies wanted to move out dynamic content, such as frequently changing sports scores or stock quotes. As a result, dynamic, content-delivery services, such as Akamai's EdgeSuite, emerged.

What the future holds

In the coming year, companies

will have to grapple with how

Internet applications. So they'll

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nology that made CDNs work to

help make complex enterprise

Co-founder, NetsEdge Research Group

applications work. 77

Peter Christy,

they're going forward with

Looking forward, companies will want more than support for dynamic content. Cavit expects Akamai to handle application and transaction processing, user authentication and other services, so that he can offer McAfee's services from the edge.

"In a lot of ways, we haven't explored all that CDNs can provide and do," Cavit says. "One of the things I'm interested in that I'm working with CDNs on is the concept of delivering [Microsoft] .Net services from the edge. So instead of delivering graphics, pages and GlFs, and things like that, you can take and operate a Web service as an edge-delivered service. You don't have to run it out of a single data center."

CDNs appear to be destined to act as the enabling technology for Web services, small pieces of application code that can communicate with each other over the Internet. C.J. Stumpf, CTO at Digital Island, says CDNs will morph into distributing computing networks that will be essential to the smooth operation of Web services from vendors such as Microsoft, IBM, Sun and BEA.

"We're seeing a paradigm shift," Stumpf says, noting that companies no longer are content with static Web sites. Content is now used as a driver to make sales. "So you're moving from driving informational brochureware to driving viable business transactions."

As CDNs take on more complex responsibilities, they will have to give companies peace of mind. Expect to see enhanced security features, better storage capabilities, and monitoring tools that let businesses track how their Web sites are performing even as most processing happens out at the edge of the Internet.

These service providers will

also make it easier for private CDNs on enterprise WANs to hook into their public networks. Akamai plans to offer its technology as a managed service behind corporate firewalls. The company may even license its technology for use in private enterprise CDNs, says Kieran Taylor, director of product management at Akamai.

"The next logical step is to bring Akamai servers in-

New horizons

Content-delivery networks will continue to evolve in a number of ways, including:

Application processing at the edge:

Moving content was just the beginning; the real need is to speed up application transaction times.

Better integration with enterprise WANs:

CDNs will become an extension to internal network acceleration systems.

Ability to handle and store data:

As applications move to the edge, the need to move large file systems will grow.

Enabling infrastructure:

CDN technology will become the platform that helps distributed Web services work.

A new name:

The CDN moniker will likely give way to application or Web acceleration network as the technology moves beyond its content-delivery roots.

side the firewall and enable the creation of an enterprise CDN," Taylor says. "Be it a company with a number of regional offices or a large company with a lot of international locations, they're all coming to Akamai and are very interested in a platform that enables them to have secure and reliable communications across the Internet. And that's our bread and butter."

Douglas Parrish, CTO at Walt Disney Internet Group, which owns ABCnews.com, ESPN.com and ABC.com, says public CDNs will remain vital in determining how new forms of content are delivered. As broadband and high-speed connections into the home become more prevalent, he says his Web sites will be able to offer more kinds of content.

"And our desire is to get those things the user community needs and wants in front of them as fast as possible," Parrish says.

CDNs will continue to deliver basic content, but will evolve into more complex delivery platforms. Already, they are the platform that is making streaming media work. Telecom companies have recognized the importance of CDN technology and are getting in on the action with companies such as AT&T and Qwest already offering content-delivery services.

While CDN technology is evolving, the CDN name may not be around much longer.

"It may very likely disappear and be replaced by terms that better capture the idea of distributed edge services," says Gordon Smith, a vice president at Speed-

era. "There's still a tendency to look at CDNs in the simplistic sense — that CDNs are used to do caching.

"We already know they do vastly more."■

See Tech Update on CDN global load balancing and switching, PAGE 29

SERVICE PROVIDER DEVELOPMENTS AT THE JUNCTURE BETWEEN THE ENTERPRISE AND THE NEW PUBLIC NETWORK

Integral increases voice, data support

New module for integrated access device sports three T-1s.

BY JIM DUFFY

CHELMSFORD, MASS. — Integral Access last week unveiled a three-port T-1 module for its integrated access device that the company says will triple the amount of data and double the amount of voice traffic the platform can handle.

The new module for Integral's PurePacket-OUTburst-SB IAD is targeted at carriers bundling integrated voice and data services over IP Multi-protocol Label Switching (MPLS) networks for small and mid-size enterprise customers. The three T-1 access links can be bonded together to form a virtual 4.5M bit/sec trunk with failover and load-balancing capabilities among the physical ports, Integral says.

Previously, the PurePacket IAD supported

Takes

■ Alidian Networks last week said it will provide its OSN 4200 add/ drop multiplexer to Merit Net-

works to upgrade a backbone transport network that serves more than 500,000 users per day. According to Alidian, the boxes will be configured as single-wavelength systems, each providing 2.5G bit/sec. Merit says that Internet traffic in its area has been doubling every 13 to 14 months during the past 10 years, which necessitates the upgrade. Merit's backbone is currently composed of OC-3 and OC-12 leased lines.

www.merit.edu; www.alidian.com

EngineX last week announced that it now provides design and implementation services for Redback Networks quar. Specific services that tright X will offer to Redback cust in a military not multivendor uper that one protections, stated in the tright X will offer to Redback cust in a military and implication of multivendor uper that one protections, stated in the tright X will state in the tright X

a single T1 for access from the enterprise into the carrier IP/MPLS network with 24 voice channels, or 1.5M bit/sec for data. The new module doubles the number of voice channels to 48 while simultaneously supporting 4.5M bit/sec of data, Integral officials sav.

"It allows service providers to increase the throughput and the potential number of users they can support," says Claudia Bacco, an analyst with Telechoice.

The voice channel count on the new three-port module is limited by the two customer-facing plain old telephone service (POTS) interfaces, which only support up to 12 Foreign Exchange Station or Foreign Exchange Office lines apiece.

The PurePacketOUTburst-SB natively supports IP services, such as voice over IP, video over IP, voice over DSL, IP VPNs, and LAN interconnect, as well as POTS, PBX interconnect, frame relay and private line, Integral says. It can be equipped with up to three interface modules, in addition to a built-in 10/100Base-T Ethernet port.

Two configurable customer premises interfaces can be equipped with modules for DS-1 or E-1 for connecting to a PBX, and

V.35/X.21 for serial data connections, in addition to the POTS lines. The carrier network interface can be configured with a DSL,T-1,E-1 or the new 3xT-1 module to connect to Integral's PurePacket Node in the point of presence, which aggregates T-1s coming into the network from multiple PurePacket IADs.

The PurePacketOUTburst-SB operates with softswitches via the Media Gateway Control Protocol, supports Class 5 voice networks using the GR-303 protocol, and interfaces to ATM and IP/MPLS networks. Services bound for or aggregated from small and midsize businesses can be routed to the PSTN, a softswitch-enabled Signaling System 7 packet telephony network, or kept on the IP/MPLS backbone, according to MPLS label constraints that indicate path or destination.

The PurePacketOUTburst-SB includes a built-in firewall, Dynamic Host Configuration Protocol server and network address translation capabilities. It is 1U (1.75 inches) high and 19 inches wide, and wall- or rack-mountable.

The 3xT-1 module is available now. The upgrade module for existing PurePacket-

More is better

Features of Integral's 3xT-1 module for the PurePacketOUTburst-SB integrated access device are:

- Three T-1 links can be bonded into a virtual 4.5M bit/sec trunk.
- Triples data capacity, from 1.5M bit/sec to 4.5M bit/sec.
- Doubles voice channel count to 48
 lines



OUTburst-SB units is about \$1,400. Base pricing for the PurePacketOUTburst-SB is about \$1,900.

Integral: www.integralaccess.com

New group forms to promote 3G nets

Newco's goal is to help make sense of wireless marketplace, technologies.

■ BY TERRI GIMPELSON

WASHINGTON, D.C.—An alliance has formed to help the industry sort through 3G wireless technology.

The group, known as the Americas Body or Newco (new company), was created by a group of North and South American wireless service providers and equipment vendors, including AT&T Wireless, Cingular Wireless, Compaq, Ericsson, Lucent, Motorola and

Nokia. Its efforts will focus on what it calls the most popular 3G technologies — those that make up the GSM Communications portfolio.

GSM technologies include General Packet Radio Service, Enhanced Data rates for Global Evolution, and Wideband Code Division Multiple Access (WCDMA).

Newco officials state that their group is committed to developing a common evolutionary path to 3G.

"This will culminate in WCDMA," says William Plummer, vice president of industry affairs and government relations at Nokia. "What we're here to do is promote an understanding of this migration."

He likens Newco's work to the Universal Wireless Communications Consortium, the now defunct

organization that sought to promote Time Division Multiple Access technology.

Dave Williams, vice president of strategic planning for Cingular Wireless and ad hoc chairman of Newco, says the alliance will be

"We're really looking to drive the vendors in the direction we want them to go," he says. "We want to simplify things. People want mobility and ease of use, and we want to help vendors develop

products to simplify this desire."

Williams says that while Newco is not a standards body, it will work closely with existing standards bodies to improve the simplicity and understanding of 3G. "We're really about building links to the standards bodies rather than doing the work ourselves," he says.

Newco is scheduled to have the first of its quarterly meetings at the Cellular Telecommunications and Internet Association show on March 18-20 in Orlando.

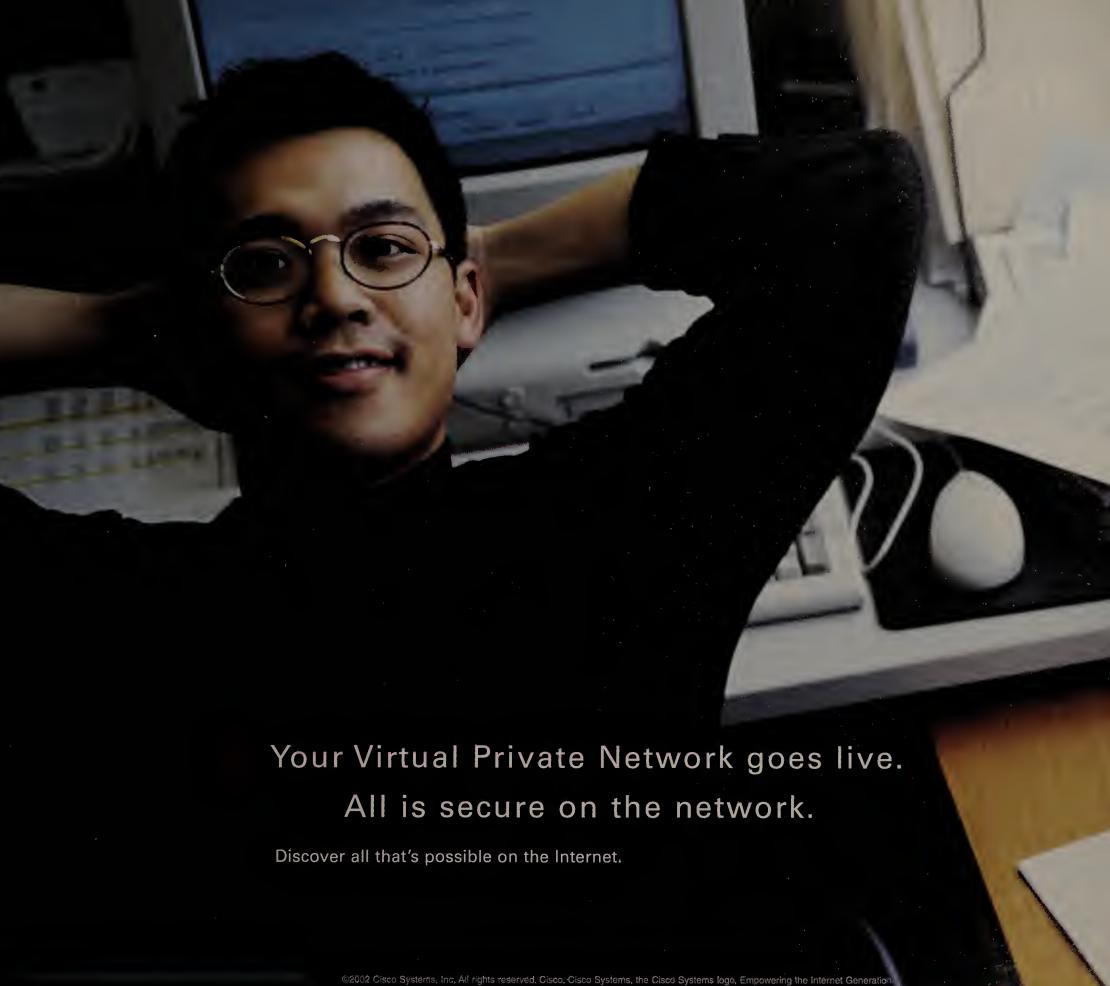
The group is also contemplating a new name for itself that more accurately reflects its mission. It expects to complete that process by the end of this month.



More online!

Read about the challenges facing the implementation of 3G and the measures adopted by vendors and carriers.

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2411(1)(1) **TECHNOLOGIES AND STANDARDS** SHAPING YOUR NETWORK

CDN switching adds flexibility

BY BRYAN SKENE

Wide-area load balancers with contentdelivery network switching technology let companies use public CDN services to extend global availability and content distribution.

Think of CDN switching as a bridge that organizations can extend to CDNs of their choice, on a pay-per-use basis. CDN switching lets organizations take advantage of shared public services, and lets them leverage those shared services when they wish.

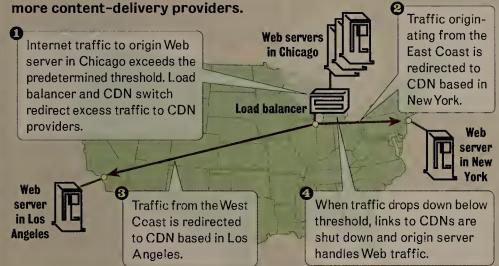
CDN switching and wide-area load balancers create a more efficient, cost-effective use of global networks, ensures scalable content distribution, and provides end users with a better Web experience — one they will be willing to seek out and pay a premium for.

These two technologies also let organizations control the decision of which CDN or third party to peer — they can choose to utilize an alliance of CDN providers, a single provider, or multiple unaligned providers, depending on criteria such as price, geographic reach of the CDN and performance.

Organizations can also choose under which conditions or thresholds to utilize a CDN or third-party network, then easily and dynamically change the conditions, because they control the settings. For example, within the wide-area load balancer, organizations can select a setting that specifies that when a data center reaches a capacity of 10M bit/sec, the wide-area load balancer overflows all sub-

CDN switching

Combining load balancing and CDN switching lets a customer mix and match between its own Web site and one or



sequent requests to a third-party network or CDN — until that threshold is no longer exceeded.

A content provider that has a television advertisement running during the Super Bowl broadcast would not want to spend money building new infrastructure to handle the associated one-time increase in traffic to its site. CDN switching would let the content provider create an overflow network and rent additional traffic capacity from the CDN. An overflow insurance "premium" would be paid in megabits per second. (That is, the content provider might normally pay a certain amount of money per megabit per to serve content from its own infrastructure, but pay a premium when it expects the origin site not to be able to handle traffic demands.)

CDN switching, along with a wide-area traffic manager, can combine client attributes with IP addresses, enabling traffic management decisions to include the client's continent, country, state or city. The traffic managers can direct traffic from specific regions to the content provider's network, to be served at a lower bandwidth cost — or to various CDNs, to be served at higher premium rates in exchange for a better presence in certain regions. For example, content providers can send 30% of their traffic from the U.K. to Digital Island and 50% of

their traffic from the western U.S. to Akamai, and serve the rest of their traffic from less expensive infrastructure. CDN switching provides this detailed control, letting content providers spend their dollars wisely, build where it is cheaper to build, and outsource the rest.

Similarly, a content provider could extend its domestic services to an international market, again without building new infrastructure. CDN switching allows rules to be set that identify traffic originating from an international market. Content providers could easily redirect those requests to a content-delivery service that could reliably serve those geographic

CDN switching technology can also monitor all network resources for performance criteria. When that criteria is exceeded, the wide-area traffic manager can kick in and dynamically redirect requests to a CDN service until the criteria returns to a nominal state. This gives content providers traffic overflow capabilities and lets them pay only for actual bandwidth used.

Finally, a wide-area load balancer with CDN switching gives content providers the flexibility to negotiate different types of agreements with different service providers, and lets them send a proportionate number of requests to each service provider based on individually established pricing models.

Skene is a product development manager at F5 Networks in Seattle. He can be reached at b.skene@f5.com.

Ask Dr. Internet by Steve Blass

We are a therapy center with four offices in the city and want to connect them using a VPN through Verizon DSL service. Can it be done? Do we need special VPN software? What would be the speed of the connection if each office had at least five computers?

According to www.verizon.net/dsl/biz/, Verizon DSL will work with firewall/router devices and with directly connected PCs, so you should be able to quickly connect your office networks to the Internet using standard tools and practices. The easy way to connect your offices over the

Internet is to choose matching DSL firewall/ routers that support network-to-network VPN connections and let them do the work. Otherwise, constructing your VPN with server-based security connections will probably involve installing, or at least enabling, VPN software on your systems. Windows 2000 provides tools supporting the Layer 2 Tunneling Protocol, Point-to-Point Tunneling Protocol and IP Security protocols. Configuring your systems to support your business requirements will require authentication and authorization services, possibly a Remote Routing and Access Services server at

each office, and security policy configuration in your servers and routers to tunnel the traffic across the Internet.

The perceived speed of the shared DSL connection will depend on your usage patterns. At best, you could be the only computer using the connection at the time. At worst, a 512K bit/sec DSL connection shared between five computers should be twice as fast as dial-up.

Blass is a network architect at Change@ Work in Houston. He can be reached at dr.internet@changeatwork.com.

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GEARHEAD INSIDE THE NETWORK MACHINE

Gibbs



t must be something to do with the New Year starting in earnest. The volume of spam received here at the ultra-top-secret, underground, nuclearhardened, fabulously high-tech but still quite cozy Gearhead Laboratories increased by an order of magnitude last week.

We've had a half-dozen Nigerian "help us move this money" pitches (otherwise known as the "419 scam" — see www. nwfusion.com, DocFinder: 7532) and a flood of "business" pitches from some idiot going by the name of "Dr. Ragnar Atkinson" (if you know who he is, contact us — we'd like to send our friend "Vinnie" around to have a "chat" with him).

Be that as it may it was time to do something. Thus we turned to SpamCop, a free service (www.nwfusion.com, DocFinder: 7527) run by Julian Haight, the SpamCop sheriff, assisted by a score of deputies. SpamCop provides a spam-reporting ser-

Copping a spam

vice as well as e-mail filtering.

To use SpamCop you must register. Once you are a bona fide user, you can submit spam directly through the SpamCop Web site or by e-mail. When SpamCop receives your submission, it parses the spam message header looking for the source of the message. It then tries to identify the system responsible and generates a complaint e-mail to be sent to the system administrators responsible for the spammer's Internet access.

The SpamCop FAQ list notes: "Spam-Cop uses a combination of Unix utilities [dig, nslookup, finger] to cross-check all the information in an e-mail header and find the e-mail address of the administrator on the network where the e-mail originated. It then formulates a polite request for discipline, including all the information the admin needs to track down the user responsible."

As an aside, we noticed a very interesting tool that SpamCop uses for its FAQ called Faq-O-Matic (www.nwfusion.com, Doc-Finder: 7528). Faq-O-Matic is a Perl script that was designed and built for Unix systems, although the Faq-O-Matic FAQ notes that it has been successfully run under Windows.

Faq-O-Matic can be used like a regular FAQ except that it is far easier to main-

song you're listening to. You can adjust the

length of time that the backlight stays on,

from "never" up to 5 seconds. Reduce the

time to save battery life, but most likely

you'll want the 5 seconds when you're pick-

Gool A cure for the iPod blues

tain. But the software really shines when user contributions to the FAQ are allowed (it is a configuration option). Then, comments and additional information can be added by authorized users — potentially a powerful tool in a corporate environment. But I digress, lets get back to our story.

When the SpamCop complaint is ready to be sent, SpamCop sends you a message with a link to a dynamic page on the Spam-Cop Web site. There you can review the complaint and select the addresses that your complaint will be sent to (SpamCop indicates which addresses are likely to be effective).

Complaints are sent from a "blind" Spam Cop.net e-mail address so that your e-mail address is hidden (however, if you reply to a response from a system administrator it will reveal your e-mail address). So far, out of about 40 SpamCop reports we have filed, only one ISP has responded and that reply was automated.

So, while it is unlikely that you will actually find out if you've caused trouble for a spammer, there is another benefit: Every time that you create a report, SpamCop's list of bad servers that handle spam is updated. Haight says SpamCop usually knows of a new source of spam within 10 to 15 minutes of it sending out messages.

As we noted, SpamCop is a free service, but the company also supplies a fee-based service that filters your e-mail for you. It can retrieve your mail from your ISP by Post Office Protocol or you can have your ISP forward it to a private mailbox on SpamCop. By running SpamCop's continuously updated filters against your mailstream, the service can get rid of a huge amount of spam. For an average user (0.5M bytes of mail per week), this will cost around \$12 per year, while a heavy e-mail user (around 3M bytes per week) will be charged about \$78. Check out the SpamCop pricing (www.nwfusion.com, DocFinder: 7529). You can read your mail on SpamCop through a Web interface, POP or Internet Message Access Protocol.

Haight says the new corporate services will provide a "black hole" list (a list of spam sources), a turnkey server solution, or you can have SpamCop handle all of your mail. Pricing is planned to be as low as \$1 per user per year for the black hole list. We're impressed.

If you've tried SpamCop or you have any thoughts on this approach to spam management, let us know at gearhead@ gibbs.com.

KEITH SHAW

Lord of the Things

tech

toys

ing the songs because without the backlight it can be tough to read the screen

when it's dark.

The Treo 10 comes with two software applications, MXP Music Explorer and Music Match Jukebox. The MXP Music Explorer is software that lets you move the songs over from your PC into the device; and Music Match Jukebox is the software you use to create MP3 files from your existing CDs (remember kids, no Napster-like file sharing!). The device connects via a Universal Serial Bus 1.1 cable, and you also need the device connected to the AC adapter when transferring music. This makes the process a bit "wire happy" because you've got cords going from the PC to the device and the device plugged in.

This is also where iPod still shines because it transfers songs much quicker via a FireWire cable. Because FireWire on the PC is still in its infancy, I can see why e.Digital went with the more ubiquitous USB. With the slower cables, it takes about 2 minutes to transfer between 10 and 13 songs.

And it will take a long time to fill up the 10G-byte hard drive.l put less than 1G byte of songs on the device, about 13 CDs worth of music. So on average, you should be able to get more than 130 CDs on this device before you begin to run out of



The Treo 10 digital audio player.

space. And I can't begin to calculate how long it would take you to listen to all of

You can listen for about six hours

before the lithium ion battery needs recharging. More energy is spent on choosing songs or adjusting settings

than just playing the songs.

Finally, the best part — the Treo 10 costs \$250, about \$150 less than the retail price of the iPod. If you've been Jonesing for a device like the iPod, head to www.edigital-store.com.

And there's another device out there that looks to raise the bar: D-Link launched the Roq-it MP3 Jukebox, which features a 10G-byte, embedded, 2.5-inch hard drive and a blue backlit LCD screen. The device uses a USB connection to show up as a new drive letter on the hard drive, for easy drag-and-drop copying to the player. In this way, you can use the player as an external hard drive if you want to transfer nonmusic data files. Included with the Roq-it are headphones, shoulder strap, carrying case, USB cable, lithium ion battery and AC power adapter/charger. The Roq-it costs \$209, and is available through retail and reseller channels. Go to www.dlink.com for more information.

Send any Cool Tools info to kshaw@nww.com.

hen Apple announced its iPod digital music player, many PC users were left in the unenviable position of drooling over a device that they couldn't get (unless they "crossed over" and bought an iMac, which is what Steve Jobs wants you to do anyway).

Now some PC users can get revenge. E.Digital recently launched its Treo 10 digital audio player. The Treo 10 has a 10G-byte embedded 2.5-inch hard drive (twice the size of the iPod's 5G-byte drive). E.Digital sent me an evaluation unit and the device cured my iPod blues.

The first thing you notice on the Treo 10 (not to be confused with Handspring's Treo communicator, which is a PDA/ phone device) is its weight. While 9.9 ounces is not very heavy, when compared with other handheld devices it will seem a bit heavy. Of course, you need a little weight when you're carrying around 10G bytes of music

The Treo 10 includes a small, backlit LCD display that shows the artist, album and www.nwfusion.com Features 1/14/02 NetworkWorld 31

Measure for measure: Making metrics matter

TESTER'S CHOICE David Newman



the standard practice of measuring only at the throughput level. It's also useful to measure delay with lighter loads.

It's not valid to label as latency any delay measurement taken where loss exists. In this situation, what's really being measured is queue depth. Still, it may be valid to measure delay where congestion exists, especially when assessing QoS mechanisms.

Tests can produce gigabytes of raw data. Rendering the data fit for human consumption requires two things: an understanding of what's being measured, and the application of meaningful metrics to describe it. Without the latter, the raw data is just so many grains of sand.

Newman is president of Network Test, an independent benchmarking and network design consultancy. He can be reached at dnewman@networktest.com.

escribing a network box with the word box "is an attempt to describe a beach by looking at . . . each and every grain of sand."

Geoff Huston, chief scientist at Australian carrier Telstra, said that. Huston was upbraiding me for my part in an effort to measure quality-of-service (QoS) mechanisms in routers. For his purposes, he was right: Single-box measurements aren't helpful in describing service levels.

Huston's statement underscores a key testing issue: Services and devices are different, and the right metrics for one may not be right for the other.

Consider latency, the delay added by a device or system. It's a vital metric in assessing the performance of virtually any device. In Gigabit Ethernet gear, latencies in the tens of microsecs are common.

Let's look at service measurements. To go across the U.S. and back, a beam of light traveling through fiber takes at least 40 msec. Even on shorter trips, latency won't begin to degrade application performance until it reaches up in the milliseconds.

Conversely, uptime is one of the most important service metrics, yet in a test lab, where test durations tend to be in seconds, it's not all that important.

So what are meaningful box and service benchmarks?

Let's take the service case first. Reliability and uptime metrics are always critical. Questions to ask providers include: What percentage of time is a circuit available? How many outages occur, and how long does it take to restore service?

Throughput is also useful, but a more meaningful predictor of application performance is "goodput" — the amount of user data received in a given interval, minus any bytes that had to be retransmitted.

Latency may not be terribly meaningful by itself, but a few related metrics can be. Jitter — variation in packet arrival times — is critical for voice and video applications, where even small amounts of change can lead to severely degraded performance.

Latency distribution is another useful way to assess services. While jitter describes packet-by-packet variations in delay, a latency distribution histogram describes a service at its best and worst.

In assessing box performance, the classic metrics include throughput, forwarding rate, latency and jitter. For applications that are sensitive to reordering of packets (including anything running over TCP), I'd add sequencing to the list.

Latency matters for boxes, although lately it's been suggested that it's time to revise



RETURN ON COMMUNICATIONS

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EDITORIALJohn Dix

All for naught

Ithough the job of ridding the Web of broken links seemed impossibly grand, in the end LinkGuard was tripped up by economic not technical hurdles.

The company, which *Network World* profiled in May 2000 and again in October of that year (www.nwfusion .com; DocFinders: 7534 and 7535), scaled down operations last June and pulled the plug on its service in November after realizing the cost of running its business was going to outstrip revenue potential.

To refresh your memory, LinkGuard set out to build a database of all known Web links that it would to use to offer a link-integrity service. The idea was to fix broken links within your site and, more importantly, links to your site from other sites.

For example, if Novell published a link to a *Network World* story and we subsequently moved that story, instead of returning an error message to the Novell.com surfer, Novell could redirect the request to LinkGuard. LinkGuard would look up the proper location of our story and either notify Novell or simply go into Novell.com and fix the link.

The first stumbling block the company encountered was it underestimated the size of the problem. Instead of the Web containing 20 billion links, something Link-Guard could map in an 8 terabyte database, it contains 100 billion links requiring a 40 terabyte database.

Nevertheless, founder and CEO Franck Jeannin said LinkGuard managed to map the Web using Microsoft's SQL Server running on 40 Dell PowerEdge servers. The company used Microsoft Message Queue Server and a bunch of custom code to stitch the resources together into the final product. "We did things with SQL Server that Microsoft thought impossible," Jeannin said.

But it was all for naught. In the end the company couldn't convince customers that protecting against bad links was something worth paying for. "Most saw it as a nice-to-have vs. a need-to-have [service]," Jeannin said.

What's more, it was clear that the \$3 million it cost to run and maintain the map was going to outstrip revenue potential for the immediate future, and investors are clamoring for faster payback these days.

So LinkGuard's 55 employees are gone. All that remains is Jeannin, who is working with investors to tidy up. The company will either be sold or its assets liquidated and the remaining cash returned to investors.

Too bad. Ridding the Web of broken links was a noble goal.

— John Dix Editor in chief jdix@nww.com

opinions!

IBM billing blues

Regarding "Users cry foul over IBM bills" (www.nw fusion.com, DocFinder: 7522): Customers have a right to be concerned about sudden cost increases. However, the addition of unlimited support access to the software package is a valuable one and will provide IBM customers with a return on investment.

I have found IBM support to be more knowledgeable and more responsive than anyone at Lotus has ever been. I am often called on to troubleshoot problems for clients. Several times per year I get hit with something for which I have to contact IBM support. I no longer feel like this can be equated with getting a tooth pulled.

As far as consultants who fear losing business, I must admit it's business that I, as a consultant, don't mind losing. Technical support is a dirty job and can be emotionally stressful. It's also a pain in the butt to bill — 15 minutes here, 25 minutes there. Was that call long enough to bill for? Do we have a standing support contract with that customer? Do we refuse to answer simple questions if we don't? It's quite a dance to protect our margins and keep customers feeling like they are being cared for.

Michael Eaton Administrator/developer Boom Vang Consulting Portland, Ore.

I disagree with the IBM officials who claim "companies that already purchase maintenance and support services will have similar costs under Software Maintenance."

l am a Passport Advantage customer with 6,600 Lotus Notes licenses. Our costs will be rising 61.7%, from \$76,000 to \$122,900, in July. If my company did

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

this to our customers, we would be out of business. Because of this increase, we will be looking at moving to another messaging platform.

> Brian Forsyth Pittsburgh

IBM's Software Maintenance is another stab at independent consultants, who are already suffering in the current economic climate. IBM is simply taking advantage of current conditions to bury small consulting firms that have devoted themselves technically to Lotus products over the past 10 years.

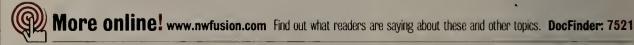
> Terry Boyd Managing director Saxon Systems East Ryde, New South Wales, Australia

Tell IBM to continue with this licensing scheme. I was forced to go on Lotus Notes, and have had nothing but dismay over local utilization, setup and use of the product. The server seems to require offline maintenance at least twice a month, and Notes doesn't play friendly with other e-mail clients. As a database application, Notes makes a lousy e-mail application.

Carl Atkins Network analyst Virginia Commonwealth University Richmond,Va.

IBM is doing the same thing that Microsoft has done to its user base over the last year or so. If these people were willing to put up with it from Big Bill, why not Big Blue? Perhaps it's time for them to consider something radical, like migrating from IBM and Microsoft products, and doing business with companies they had previously forsaken.

Dave Bank New York







STRATEGY SESSION

Jeff Kaplan

recent flurry of stories in the trade press suggests the current economic decline has heightened interest in outsourcing. Analysts forecast a surge in outsourcing, ranging from large-scale contracts to newer forms of outsourced services such as Web hosting and VPN services. But despite the

growing arguments in favor of outsourcing, network executives continue to be apprehensive about the negative implications. As a consequence, the rate of outsourcing growth is unlikely to match industry expectations.

Network executives have been reluctant to outsource all or part of their IT operations — for good reason. Gartner has estimated that 80% of major outsourcing deals fail to achieve their original business objectives and are terminated or significantly restructured before the contract period ends. One notable case of a deal gone bad happened last summer, when McDermott International ended a 10-year network outsourcing contract with AT&T after less than two years because the contract no longer fit corporate goals.

There are many reasons for these deals coming undone. First, many have been signed without sufficient baseline data on the current health of the client's IT environment. As a result, the outsourcing companies are making promises about cost savings and performance improvements they can't keep. Second, outsourcers make money by automating IT functions and delivering generic solutions that can produce

The realities of outsourcing

operating efficiencies and reasonable margins. This doesn't leave room for the continuous changes in many enterprise organizations.

The current economic environment is forcing companies to rapidly change their corporate goals and operating procedures. Traditional outsourcing agreements are not flexible enough to accommodate this level of change. This has led to a new wave of outsourcing models, including application service providers, management service providers (MSP) and Web-hosting companies. But these new outsourcers have also had their problems. A recent IDC eWorld 2001 Survey of more than 2,100 respondents found that only 15% had purchased or were interested in purchasing MSP services in the next 12 months.

Nonetheless, the research firms continue to forecast double-digit growth in outsourcing. How will the growth become a reality? Two things need to happen. First, outsourcers need to repackage their offerings to give their prospective clients more "bit-sized" alternatives to the all-or-nothing outsourcing approach of the past. Second, IT executives must overcome their fear of outsourcing and more carefully evaluate the business benefits of the expanding outsourcing alternatives.

Whether they like it or not, IT decision-makers should recognize that outsourcing is a necessary evil that can bring true cost savings and performance improvements if properly structured. Taking the right steps and demanding the right solution are essential to success.

Kaplan is managing director of THINKstrategies, a consultancy in Wellesley, Mass. He can be reached at jkaplan@thinkstrategies.com.

The current economic environment is forcing companies to rapidly change their corporate goals and operating procedures.



REALITY CHECK

Thomas Nolle

here's no question the events of Sept. 11 thousands have transcended issues of privacy, leaving them asking, "Who's watching

It's a tougher question than it seems. There's a Latin phrase that distills the issue of our time: "Quis custodiet ipsos custodes," which means, "Who will watch the guards themselves?" The problem many have with measures to combat terrorism is the potential these measures have for abuse. It's very likely the Internet will become a focus for this debate because the Internet is a curious combination of newspaper, telephone and propaganda organ.

The Internet is communications populism on a worldwide scale. Everyone can have access, and everyone can reach out and touch a neighbor or an international pal. Unlike broadcast media and print, where only a few have access and influence, there is a forum for everyone on the Internet, regardless of the correctness of the message or the economic value of the messenger.

But you can reach out and touch a co-conspirator, too. Communications is also the basis for plotting, and a forum where plotting goes undetected is a legitimate threat. But how much of the Internet's benefits are lost if we demand authorities be allowed to track messages back to their sources, read e-mails with court sanction, or even close down sites that publish something dangerous? It's very difficult to decide, which is why we need to be very careful before we permit these tactics.

For one thing, the Internet is global, and U.S. law isn't. Our antispamming laws have done a lot to move spamming out of the U.S. to countries without such laws. Because those countries are also part of the Internet, the entire antispam legislative process may have been little more than window dressing. The moral here is that imposing sanctions within the U.S. that cannot be effectively globalized will only penalize our legitimate users; others will flee offshore.

Another problem is the fluidity of the Internet. How many e-mail addresses could you obtain, free, from which to generate spam or

Who's watching the guards?

plot crime? Thousands, at least. It's difficult to propose an effective changed the way most Americans feel strategy for e-mail intercept, but easy to envision a very invasive one. about security. For many, the deaths of Maybe the best way to start is not to break new ground, but rather extend accepted concepts. We can't make threatening phone calls

without prosecution. Similar protection should be afforded to Internet users. We can't plan crimes or terrorist incidents using the telephone without risk of detection by court-supervised watchers. So it should be with the Internet. Make it harder to set up e-mail accounts without leaving footprints, and provide access to records with proper protection. Set reasonable times for storage of messages. Big Brother doesn't have to watch everyone if he can sort out who's who in some

Regulation of this sort has to regulate the exception, not the mass of users. Sure, we can't know who's using an anonymous e-mail account. We can't know who made the anonymous call, either, but that doesn't mean listening to every phone call is a good idea. And Internet monitoring shouldn't extend to government grazing of stored messages. But getting specific mail, where specific threats can be proven to a judge — we do that now for other forms of communications, and we should expect it on the Internet, too.

We as a society have already accepted that some curbs on rights are needed in the name of the common good. Let's extend those timehonored and tested curbs to the Internet, where there are parallels of use between the 'Net and the older, more regulated forums such as telephony or the mail.

But then let's stop and take stock. The Internet is in its infancy. We've never had anything quite like it, and we have no idea what benefits it may present to us — and what it might take to compromise those benefits forever. Before we call for new rules for the Internet, let's be sure the old ones won't serve us. Because, sadly, we know too well that nobody watches those guards all the time.

Nolle is president of CIMI Corp., a technology assessment firm in Voorhees, N.J. He can be reached at (856) 753-0004 or tnolle@cimi Imposing sanctions within the U.S. that cannot be effectively globalized will only penalize our legitimate users; others will flee offshore.

Streaming media comes of age as corporate training and communications tool.

Bandwidth, video tools catch up to hype

34

Typically, network executives will not introduce a new application until it has been demonstrated that the app will run at peak performance. That hasn't been the case with streaming media, however. At large stock brokerages, consultancies and computer companies, individual champions have initiated streaming media projects on a shoestring and have waited for the user demand, the technology and the bandwidth to catch up.

<u>39</u>

Best Practices: Setting up streaming video in the enterprise involves creating video content, managing and distributing it to end users, and making sure the band width and client software are available.

40

Case study: When it comes to streaming media, General Mills has been eating its Wheaties. The packaged foods company makes executive broadcasts and training sessions available to 10,000 end users, 24 hours a day, seven days a week.

■ BY CHRISTINE PEREY,
NETWORK WORLD GLOBAL TEST ALLIANCE

Four years ago, when Todd Dorff, director of Internet marketing for KPMG Consulting, began looking into streaming media, he found that audiences — KPMG clients, consultants and employees — weren't ready to receive streaming video content at their desktops ... yet.

"We knew that because we had our own consultants in the field working with our clients to pilot streaming media in various business applications. There were issues they were facing for which we didn't have solutions internally or that we could recommend to them," Dorff recalls.

But Dorff recognized the potential of streaming media for communications applications and forged ahead. Working with the IT department, he assembled the necessary technologies — client software, streaming servers, and video-capture and compression hardware. And he won approval from upper management.

The kickoff Webcast in late 1998 featured CEO Rand Blazer rallying employees around the idea that KPMG should go public. "Just by trying this, we demonstrated that we were willing to take a risk," Dorff says. "We were aware that there would be people who couldn't get a satisfactory experience, especially those who were offsite, but those who watched

what we did with what we had were impressed."

KPMG Consulting's experience with streaming media is typical of what is occurring at many large financial institutions, consultancies, and communications and high-tech companies. Usually, a champion within the company pushes the idea, while the technology to create, store, compress and distribute streaming media, not to mention the bandwidth required to view it, catches up.

Generally speaking, large companies, such as KPMG Consulting with more than 10,000 employees, are leading the charge. That's partly because these companies made significant Y2K-related infrastructure investments and because the more global and dispersed a company is, the more it stands to gain from using streaming media to bring training and corporate communications to far-flung locations.

Streaming media is expected to trickle down to midsize companies in 2004 and beyond. These companies will use streaming media to reach employees in branch and remote offices, but they are less likely to build their own systems and networks than larger companies are.

Doing it yourself

Communicating a "high-tech" and "high-touch" services vision at a company with 22,400 employees, 11,900 registered representatives and 7.8 million active clients is a challenge few undertake, much less achieve. But with Chairman and founder Charles Schwab leading the way, the Charles Schwab Corp. has become a pioneer in streaming media.

When Schwab wants to reach employees with a personal message, he rides the elevator in the company's San Francisco office building to an in-house streaming media production studio.



Streaming media catches the wave in 2001

Expansion of streaming media programs in 2001 is a result of four factors coming into place:

1. The cost and availability of IP bandwidth has dropped and is expected to become a commodity, available in small and variable increments for minimal cost.

Bandwidth over the WAN is increasingly manageable, and can be used efficiently to distribute media via IP multicasting to network caches or reflectors. Plus, video-specific traffic-monitoring software (offered by BroadStream as a service and Inktomi as a product) is available to route application-level traffic without manual intervention. Therefore, the risk of bringing down mission-critical applications with bandwidth congestion is lower and the likelihood of all users experiencing

satisfactory business-quality video at their desktops is greater.

The shortage of hours in the day for critical knowledge workers requires reducing the amount of time anyone spends "in transit." At PricewaterhouseCoopers Global Risk Management practice Jim Kelly says you never know where the next risk lies and you can't have your experts out of reach. "We're faced with the same problem as everyone else: time famine," he says. With streaming media, "we can conduct a lot of work without disrupting the flow of business by having to travel."

"We have our internal experts do programs about security, threat vulnerabilities, cybercrimes, risk management.... We want our people doing everything they can to help companies to minimize their exposure and grow their organizations."

If a new computer virus strikes, within 24 hours PricewaterhouseCoopers sends an e-mail to invite field consultants to participate in a Webcast on the impact of the virus, recommending what companies should do to protect themselves. The Webcast is then archived for future reference and for viewing by those who can't attend the live event from their dasks.

"We leverage our human capital," Kelly says. "We want our clients to think of us as their source of information for managing their exposure. We want them to think that we've thought of everything — we are in effect their infinite reservoir of knowledge."

Finally, early adopters, such as KPMG Consulting, Cisco and Microsoft, have proven that video works internally and have expanded their reach beyond the limits of their enterprise networks. By using streaming media to reach their external audiences, a community of business partners and customers are receiving compelling video and wondering why their company isn't using streaming media.

"In the studio we can produce pretty much anything we need to stream — on demand or live. We usually have a two to three month lead time to plan everything for a training program, for example, but that's not to say that we can't create content and stream it on the same day," says Tracy Behler, director of e-messaging development in Schwab's Electronic Brokerage Group.

Behler says executive communications was the original driver for streaming media, but that has been expanded to include video presentations from fund managers and analysts streamed directly to customers.

"Our mission is to help our customers gain access to people they normally wouldn't see or hear from, and by using streaming media the customers can form relationships, they connect with the passion and character of the analysts as human beings, not just text," she says.

Schwab initially offered text chats between customers and analysts. In early 2000, these were moved to audiocasts. At the same time, the studio building project began, and in 2001, video Webcasting was introduced for those who wanted to see analyst briefings on demand or live.

"Live events are much more difficult to do," Behler says. "You have to put the bandwidth and the technologies together properly with the people. Working with a widearea network partner like Akamai really helps us reach global audiences without building out a large streaming network."

She says everything is archived, so customers and employees can search through the library anytime they want.

On-demand access is where the big return on investment is found, Behler says, especially among people on the go who can't adjust their schedules to meet a set broadcast time.

Jim Kelly, director of marketing for PricewaterhouseCoopers' Global Risk Management practice, agrees. "With on-demand media, we can capture content at the convenience of the subject-matter experts. And playback is available for viewers when it is also most convenient and relevant for them."

Kelly was the champion for streaming media at PricewaterhouseCoopers. "I had a conviction that this technology would work," he says.

But Kelly faced challenges. "We still had the issue of technology catching up to the hype. There were so many shortages in infrastructure. We wanted to be doing this when the mainstream user could get in with a couple of clicks." It took a while, but he finally reached that point about a year ago.

Kelly says a key lesson he learned is that the IT staff needs to be brought in early in the process. IT needs to understand what technology is being used so it can monitor the network and respond quickly to technical problems. Also, the IT staff needs to be onboard to

See Streaming, page 38



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Streaming Continued from page 35

help set up connections to remote locations. Kelly is also using Yahoo's Broadcast.com network and services to deliver video to large audiences.

Applications

The most popular internal application for streaming media is the executive address. When the merger between Boeing and McDonnell Douglas occurred in 1997, the employee base doubled from 100,000 to 200,000. CEO Phil Condit leveraged the combined network of 4,000 servers to deliver a streaming video presentation to employees.

Learning, or corporate training, ranks second. Cambridge Technology Partners (CTP), now a wholly owned subsidiary of Novell, does "road shows" to introduce new products to its salesforce. The alternative, bringing the entire salesforce to one location for a weeklong program, would cost at least \$1 million, says Jim Conley, of the learning and development group, CTP.

By putting a dozen, hourlong sessions in streaming media format, adding links to relevant documents and quizzes, and requiring that employees complete the online courses prior to the classroom training, CTP is able to compress traditional classroom time from five days to two days. "The value proposition was indisputable," Conley says.

CTP works with a company named Eloquent, which developed LaunchForce, a platform and application suite designed for accelerating product launches and reducing their cost.

LaunchForce manages the distribution of content tracks who views it, and quizzes the participants to gauge how well the content is being absorbed.

Streaming media doesn't replace classroom learning, Conley says, but it cuts costs and increases the value of the time that people spend in the classroom.

He adds that one of the keys to the program's success • Streaming media breaking news. is involving the IT group. In many companies, projects

begin with interdisciplinary teams including IT but funded by a specific business unit. And frequently the pilot project is limited to areas of the network that aren't considered mission critical.

At National Semiconductor, there already was a well-established corporate video group that did live events, but Blaise Gomes, engineering manager for quality and reliability, wanted to "break the rule that video was hard to do and extremely expensive."

He started with a \$75 capture card and an old PC, got a free copy of Real Producer and started encoding. Then he scraped up a second PC, set up a server and got the attention of the IT group, which agreed to support the project.

Today, Gomes and his group have created more than 100 training videos that are available to the company's 10,000 employees. In addition, employees can make videos to deliver messages to coworkers, for example, explaining why they made a particular business decision.

"We have lots of experts in this company," Gomes says. "We have people who love to share their knowledge. We've captured these people on video and now they can train all day while they are doing their jobs."

He's now using Synchronized Multimedia Integration Language (SMIL) technology to allow employees to jump to specific places on the video. And streaming media has been integrated with e-mail so employees can fill out an evaluation form and send it back.

At MFS Investments, the company's chief asset is the knowledge held by its analysts and fund managers, says Jerry Potts, senior vice president of communications.

> "We want to give our best people the option of communicating with as many people as possible, without leaving their office," Potts says.

MFS took its existing videoconferencing systems and linked them into a delivery platform that integrates Real format video files with a "dashboard" application based on SMIL.

Potts says customers pick the data types they want in their window: text, slides or video. Customers then can choose to host the content and applica-

Client software flows to the desktop

Today, almost everyone with access to a networked multimedia-ready PC has had a satisfactory streaming experience over the Internet. The client component of the technology is ubiquitous. Software applications for decoding and displaying streaming media are available from Real Networks, Microsoft and Apple. Microsoft has embedded support for streaming media in every operating system release since Windows 98.

Measuring the market

Streaming Media, the organizer of the largest semiannual conference on the topic, estimates that the size of streaming media in the business market was more than \$400 million in 2001, including products and services.

Gerry Kaufhold, principal analyst at Cahners InStat, estimates that in 2001 service providers that hosted and delivered streams for businesses generated approximately \$900 million.

An additional \$734 million, Kaufhold estimates, was spent on servers and technologies for streaming that were deployed directly into the enterprise networks. Cahners InStat forecasts \$7.7 billion in revenue for the same markets in 2005.

Jupiter Media Metrics estimates that businesses spent \$140 million on streaming media products and services in 2000, and that the market would grow to \$2.8 billion by 2005.

Gartner analyst Lawrence Orans predicts that by 2006, 80% of Global 2000 companies will support live and on-demand video to the desktop. Streaming media can also be used for corporate security. Installing a Webcam in sensitive areas such as shipping depots, receiv-ing areas and lobbies can be an effective way to control vandalism and mischief.

tion internally or with a streaming media service provider. Once loaded on appropriate servers, the user clicks on buttons that are linked back to the content.

Looking ahead

The customization of content is important to the companies creating streaming media. In the most advanced projects, indexing video makes it searchable and integrates it into a corporate knowledge portal.

In other situations, the media is transcoded and hosted at different data rates to permit transmission over a variety of different last-mile networks, permitting someone in a hotel room to access the same content in lower bandwidth format as someone on a corporate 10M bit/sec LAN segment.

Dorff of KPMG Consulting says his agenda includes "searching for simpler and lower-cost options for our experts to self-publish rich media content."

Another area of expansion is the level of interactivity supported in streaming media. Today, there's already the ability to

chat with a professional during a live event and to follow up with e-mail or realtime messaging when the subject matter's content is being viewed on-demand.

Links with databases allowing extensive searching within streaming and launching collaboration between users during a session will continue to expand the range of experiences people call "streaming media."

Perey is president of Perey Research & Consulting in Placerville, Calif. The company provides business development consulting services and conducts market research on the use of video in enterprise. She can be reached at cperey@perey.com.

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Return on investment

these difficult economic times, **The only reason to implement** new streaming media services in your infrastructure or to contract with a content delivery network is that it improves the bottom line. v r tre streaming media pio-** 's had no reason to expect a profmaking their exin its seen and heard by employees

and partners. They simply believed in memory, disk space for storing highthe benefits of improved communications between senior management and employees, in the value of enhanced brand equity, and in the perception that their experts are the source of the best information.

When it comes to costs, many of the components of a streaming media deployment routers with ample

quality original tootage and licenses for streaming media servers — are dwarfed by the cost of systems integration and access to professionals with experience to manage a fail-safe

Streaming Media, a company that conducts conferences on the topic, surveyed 111 companies and found that

they averaged \$954,328 to establish and operate their streaming media program in the first two years.

Companies may achieve increased return on investment through outsourcing, because they do not need to make upfront capital expenditures. However, most companies today manage their streaming infrastruc ture in-house.

The setup

■ BY CHRISTINE PEREY,
NETWORK WORLD GLOBAL TEST ALLIANCE

Three distinct groups of technology must be combined when deploying streaming media in a corporation.

Greating content

The ability to create streaming media content begins with video or audio capture tools, such as cameras and microphones, followed by digitizing, encoding and compression tools.

Since these processes are computationally intensive, they are frequently accelerated with hardware from ViewCast, Optibase, Pinnacle Systems and others.

Managing and distributing content

Storing streaming media content during production or on completion does not require any particular storage device. However, it is likely to consume significant resources. For example, one minute of finished content transmitted at 100K bit/sec will take up approximately 6M bytes. If the content must be encoded in multiple formats, then the storage requirements must be doubled.

In corporate video production, the video is already compressed as much as possible for a given frame rate and window size. Secondary compression using nonvideo tools does not produce satisfactory results.

Some vendors index their content to make it easier to retrieve. Other platforms or technologies then publish content to servers designed to push streaming media to users. Generally, a publishing "engine" is manual in the early stages of a deployment and increasingly automated, using tools such as Real Producer and Microsoft Producer, as the number of events increases.

To deliver time-based content to any IP-connected desktop, bandwidth needs to be available. A business-quality streaming media experience in a quarter-screen window at 20 frames per second is usually compressed to 100K bit/sec.

For on-demand applications, each user connects with a server in a one-to-one relationship. To preserve wide-area bandwidth, frequently requested files are preloaded on content caches on the edges of the network.

Some companies, such as CacheFlow, Network Appliance and Inktomi, include streaming media management layers for their standard caches.

Others, such as Starbak, Vividon and Digital Fountain, offer specialized appliances for storing and delivering media to large audiences. These accelerators and streaming servers can reside in a network operations center or in racks in regional points of presence.

Service providers are often involved in

the delivery of streaming media to large audiences.

When building an enterprise network, a management application is recommended. Companies such as Digital Pipe, enScaler and VideoSpheres offer special platforms for easy event and network provisioning, subscriber addition, cus-

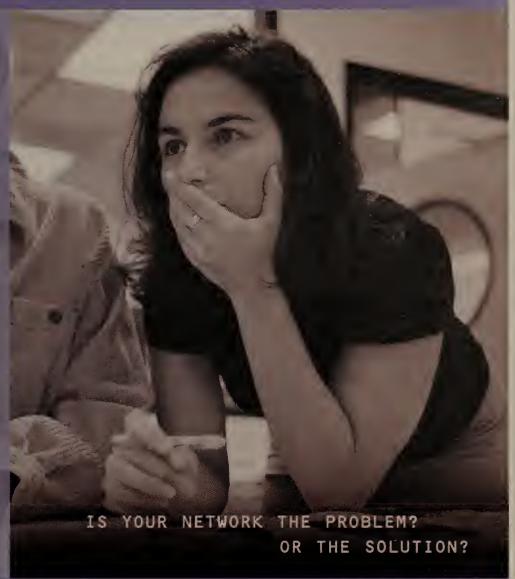
tom content groupings and the ability to filter content.

For live events, IP multicasting is widely recommended. Companies such as Multicast Technologies offer access to an IP multicast cloud for the purpose of efficiently delivering video to multicast groups.

Seeing is believing

At the client, the software for decoding and displaying the streaming media content (primarily Real Player and Windows Media Player) is relatively simple and compatible with all current operating systems. Speakers or headphones are an additional requirement.

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General Mills cooks up streaming media programming.

Video network of champions

■ BY CHRISTINE PEREY, NETWORK WORLD GLOBAL TEST ALLIANCE

For Tom Forsythe, the crowning achievement of his streaming media initiative occurred on Nov. 1, when the General Mills acquisition of Pillsbury took effect.

An estimated 20,000 employees from the combined companies tuned in to a special live broadcast from General Mills headquarters, Pillsbury headquarters and the floor of the New York Stock Exchange, where the company chairman rang the opening bell. Most employees based in large facilities watched the broadcast over streaming media on the enterprise network.

After the 40-minute event, the broadcast was split into two channels, with the operations group taking over one channel and the worldwide sales group taking over the other, for additional live meetings with employees. Forsythe says the initiative — named Champions TV after General Mills' Wheaties, "the breakfast of champions" — is playing an important role in creating a "unifying culture" at the combined companies.

But Forsythe's foray into streaming media certainly didn't start out so grand. In 1998, as director of corporate communications at General Mills, his goal was to improve on the existing system of sending out VHS tapes of corporate messages.

He went to conferences and talked to colleagues in search of "a solution that had already been developed." Unfortunately, he found that "the people I spoke with hadn't figured it out either."

So Forsythe challenged the IT group at the \$8.5 billion packaged foods company to figure out a way to make streaming media programming available to employees worldwide. IT came back and reported that the infrastructure to support streaming media wasn't in place and that the tools to create and distribute streaming media were prohibitively expensive.

The packaged foods company streams video to 5,000 end **General Mills** users at corporate headquarters in Minneapolis and an additional 5,000 remote users. Cisco 7513 router Remote users MMMM. **Cisco 6509 Catalyst switch Cisco 6509** WAN لـسسس **Catalyst switch Cisco 6509 Catalyst switch** Cisco 7513 router

- Video server streams content at 110K bit/sec to Cisco routers.
- Video stream is routed across three campus subnets to 5,000 end users over a mix of shared 10M bit/sec and switched 100M bit/sec Ethernet links or sent to 5,000 remote users over 384K bit/sec frame relay links and dedicated T-1 connections. WAN links extend to Canada, England and China.

But Forsythe wasn't deterred. He used in-house resources to develop a content scheduling tool, and with help from Microsoft, the IT group integrated the existing video studio with servers and Microsoft Windows Media technologies built into existing operating systems.

Initially, only 20% of the company could access Champions TV."We chose to implement something that on day one not everyone could access," Forsythe says. "Our view was that in time, bandwidth, routers and everything would come along. We created demand for content and service that would drive the deployment of resources."

Today, 60% of the company's employees are able to view streaming media at the desktops and kiosks at 70 locations. That includes 6,500 desktops in the original General Mills infrastructure and 3,500 at Pillsbury.

Streaming success

Champions TV streams 24 hours per day, every day. Programming is created in eight-hour blocks, so people on every shift can view it. They can also search and retrieve content from the company's streaming media archives.

Even today, Champions TV doesn't transmit at 30 frames per second, the equivalent of television quality, and the speed considered a benchmark for most viewers. Forsythe says the streaming rate is typically 20 frame/sec and sometimes 15 frame/sec.

But no one can argue with the success of the initiative. Regular programming includes the chairman's quarterly report, the annual company meeting, departmental meetings, training materials and product demonstrations.

"Often people cite saving money as their motivation for deploying streaming media, but that wasn't the motivation of this project. It was started and remains a communications-driven project. The objective with communications is always to increase reach, quality and frequency. Now, with streaming media we have these, plus the intimacy of interactivity," Forsythe says.

Many Champions TV live events let employees submit questions via chat from any location to the production studio.

Forsythe's concern now is that streaming media is becoming too successful. "Our next challenge, since it is so convenient to watch Champions TV from your desk, is that it might have a negative affect on the turnout at our company meetings. We want to make sure that we have good live attendance at these events."

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Management GAREER DEVELOPMEN

Choosing the right recruiter

■ BY TODD HAND

Despite the downturn, now's the time to cultivate relationships with those who can get you top-tier IT talent.

Vern Brownell understands the need to establish relationships with the best recruiters. When he was CTO at Goldman Sachs, turnover was only 5% per year. Although he didn't have to replace many departing employees, Brownell arranged for a few trusted recruiters to let him know when they found an outstanding candidate regardless of whether there was a job opening at the investment banking firm.

"One such candidate was so strong that we immediately created a spot, and I just heard he was promoted to director," says Brownell, who is now CEO of server blade vendor Egenera. He knows the reason Goldman Sachs has such a star is because the recruiter understood the company and knew what would make an exceptional employee.

Brownell realizes the single most important job of management is to stock the company with top talent. High-impact employees are the ones who make suggestions that save the company lots of money, or solve problems executives may not even know exist. The challenge is these senior-level staffers are the hardest people to find and hire.

Why mention recruiting during a time of rising unemployment? First, the slowdown won't last forever. Economists are predicting at least a partial turnaround sometime this year. Second, many IT positions that were eliminated to save costs will need to be filled during the recovery. Third, there's still nothing more important to a manager's success than the quality of his team.

Regardless of market conditions, there's always a direct correlation between the caliber of candidates and the caliber of the recruiters who find them. If you work with the best recruiters, odds are the best candidates will follow.

Top-notch IT pros want to see a company's commitment to hiring other quality people. Therefore, higher-level candidates make assumptions about the company as a whole based on the quality of the recruiters the firm trusts to find employees and bring them on board. If a business has low standards for the recruiters it uses, this sends a warning that the company also has low hiring standards.

Generally most recruiters fall somewhere along a continuum of two extremes — those who supply resumés found on the Internet but add no more value; and those who work with their clients, committing their resources, aggressiveness and expertise on behalf of the network executive. Here are several things to consider when evaluating headhunters:

• Know your needs before deciding on a retained or contingency arrangement. While both charge a placement fee of between 20% and 30% of a new hire's salary, a retained search requires you to pay a portion upfront. Generally, retainers work better for higher-level positions that are expected to be difficult to fill, and contingency recruiters concentrate on filling lower-level jobs.

• The first impression the recruiter leaves with you is the same one that person will leave when presenting your opportunity to top candidates.

High-impact people quickly dis-

miss recruiters who have lousy opening pitches. Look for those who make strong, honest first impressions.

 Seek a recruiter who can tell your company's story. Ask recruiters to tell you about one of their recent placements. Listen to how the recruiter describes the opportunity, the company and the hiring manager. This is how that person would describe your open job to candidates.

> • Forthrightness is crucial. Recruiters who withhold negatives about candi-

dates and don't advise their clients against making a poor hiring decision are only concerned about collecting a placement fee. Ask the recruiter to describe a candidate and determine if he's provided an honest evaluation of strengths and weaknesses.

• Sending job board resumés. Top recruiters don't send resumés that the company could find by performing a simple keyword search on the Internet.

• A common mistake managers make in choosing recruiters is to focus on short-term savings in the form of low fees. In doing so, you could be sacrificing long-term impact. There's too much at stake not to pay a little

Because candidate quality is the first objective when filling a job, it's critical to maintain high standards for recruiters who introduce prospective employees to your company. Yet outstanding recruiters, like all service professionals, can be difficult to find. Do some digging and ask peers which recruiters they recommend and why.

extra to bring in the top talent.

"The best recruiters act as an extension of my company," Brownell says. "They have a good grasp of what the industry is doing; know my peers at the competition; put us in the best position to land the best candidates; and have my best interests in mind."

Hand is executive managing director of Talent Capital Group, a retained search firm in Cambridge, Mass. He can be reached at thand@talentcapitalgroup.com.



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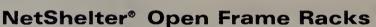
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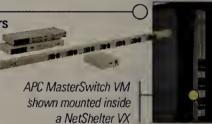
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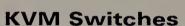
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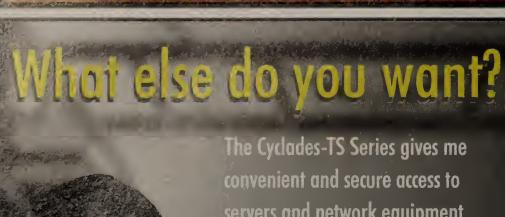


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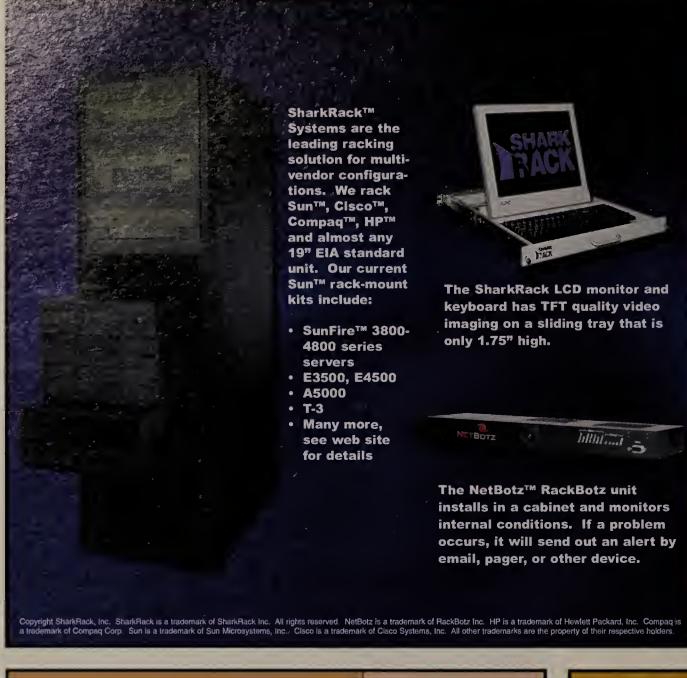


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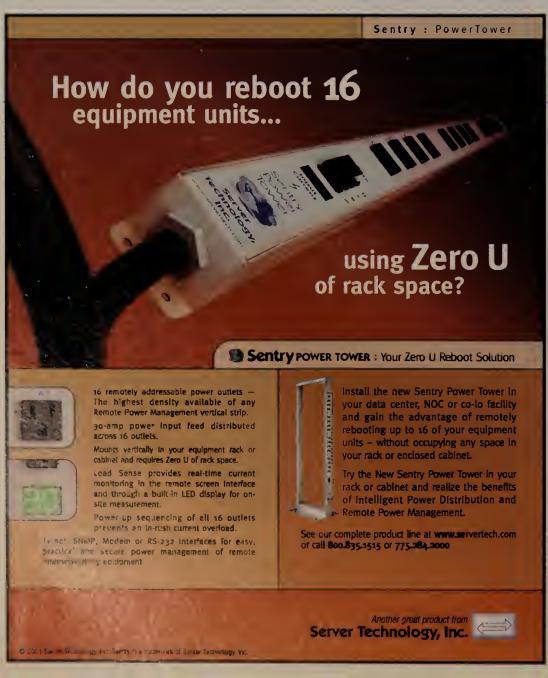


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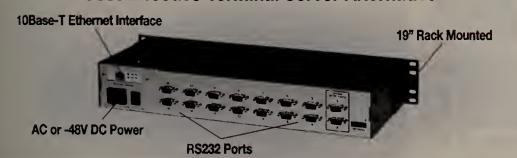
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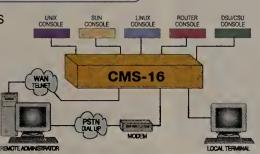
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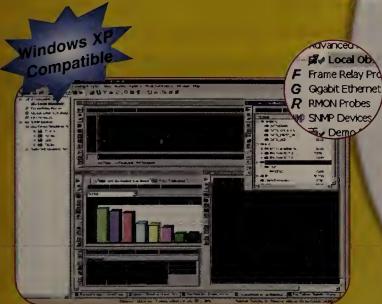
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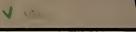
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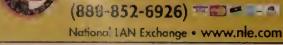




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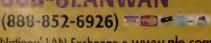
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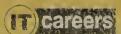


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IT Careers in Security

Every cycle of the economy tends to produce some opportunity, and such is the case with information technology security. Even prior to Sept. 11, companies were examining how to stage themselves for a new understanding of business conducted via 1s and 0s. With the addition of national security to the mix, IT security represents one of the most formidable areas of growth for IT careers for 2002.

Jerry Lewis, a partner in Dallas with **PricewaterhouseCoopers**, says the IT security business has been picking up for the past eight months. "With the slowdown in the economy, a lot of companies are stepping back and looking at what they want in terms of their long-term position with e-business," says Lewis. "For many, that means developing a security infrastructure that will support growth."

According to Lewis, IT security was viewed, in the past, as a back office operation. That has changed, as security and identity management have become crucial aspects of an e-business operation. Similarly, government agencies are pushing the envelope in establishing identity recognition and management systems for

everything from basic public agencies to airport security. Identity management includes authentication, authorization and managing access of employees and business partners.

And, while security is the critical focus, Lewis says IT security has other uses. "Companies need to be able to take advantage of what security and identity management can do for them as a component of their e-business strategy. They need to be able to leverage the information and capabilities enterprise-wide," Lewis explains.

PricewaterhouseCoopers has long had a dedicated security practice within its Global Risk Management Solutions unit. The group focuses on analyzing, designing and implementing identity management solutions. The dynamic situation in identity management and IT security is presenting new opportunities. "We will double the size of our group over the next 18 months," Lewis says. "We'll be hiring at all levels, from detail technical architects to individuals who are experienced with IT security management. In addition to the strong IT skill sets traditionally needed, we look for people with a strong understanding of business processes and operation."



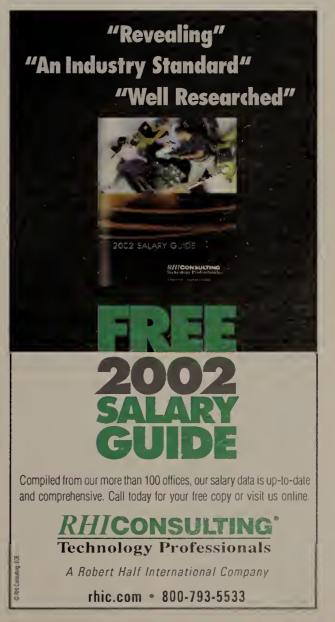


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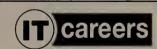
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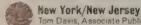
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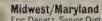
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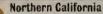
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Delivering content

A High Tech Resource Consulting Group survey of 232 companies found internal CDN technology use on the rise.

Reasons for CDN use (within the enterprise)

Better perf	ormanc	e		46%
Return on i	nvestm	ent/reduce costs	31%	
Ease opera	tions	13%		
Training	9%			
Remain cor	npetitiv	e 4%		(Respondents could give multiple reasons)

continued from page 1

help manage internal content-delivery networks (CDN). But ultimately the company wants to license the technology so companies can run it on their own. The behind-the-firewall package will include a monitoring and managing tool that will let customers control an internal CDN just as Akamai manages its public network. The Akamai technology will also hook into customers' existing management systems.

"We have a very large engineering group that's focused on taking our technology and putting it into an environment where we don't have to manage it from our network operations center [NOC]," says Mike Quinn, an Akamai general manager. "Technically what's being developed is something that stands alone behind the firewall. Nothing goes between the firewall and the Internet, and nothing goes between the firewall and our [NOC]."

Akamai wouldn't say when the technology would be available, only that more details would be released in the coming months.

The move is a major shift for Akamai, which has been providing content acceleration services on the Internet since launching in 1999. Akamai accelerates Web sites by pushing static and dynamic content to its network of caching servers. With its technology, companies can reduce hardware and bandwidth demands, as well as improve performance by pushing content out to servers geographically closest to their Web site visitors.

In a corporate scenario, the Akamai technology could push static content, large files and streaming video to caches a company would deploy at remote offices, thus reducing the traffic to origin servers.

By "productizing" its technology, Akamai will face competition from vendors such as Cisco, Inktomi, Network Appliance, CacheFlow and Volera, which offer products and services

for building private CDNs. Akamai: www.akamai.com Get more information online. DocFinder: 7545 www.nwfusion.com

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IM

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an AOL usage [of multimedia instant messaging] to either swamp out the rest of the Internet or to require major engineering to stop what we call a congestion collapse, where you cannot send new traffic into the network," says Allison Mankin, co-chair of the IETF's transport area. "This is a big enough problem to need urgent attention."

Demand for multimedia instant messaging is expected to be strong. Text-based instant messaging is popular on the Internet and private, corporate intranets. With multimedia instant messaging, users could send attachments along with chat sessions.

"Our researchers would love to have voice chat integrated with instant messaging, mainly to kill the international long-distance calls," says Ross McKenzie, director of IS at Johns Hopkins University. "Our dean has a research center in Nepal. I know that if I offered that service, he'd be on it tomorrow."

Johns Hopkins began offering regular instant messaging services to 4,000 faculty and staff members in August. Today, instant messaging is the most popular application on the university's Web portal, with more than 1,500 users racking up 60,000 minutes of instant messaging messages per month.

"If we offered [instant messaging] attachments, our faculty would be exchanging chapters out of books. But what they'd really like is voice," McKenzie says. "Our researchers want ad hoc, integrated voice and chat. They want it in Katmandu, at home, at Starbucks or wherever."

Today's instant messaging services use what's called a paging mode, where the signaling information that initiates the chat session is carried along with the text of the chat session using a single protocol.

After four years of effort, the IETF is finalizing a protocol dubbed SIMPLE (SIP for Instant Messaging and Presence Leveraging Extensions) that will let the paging mode work across different instant messaging service providers' offerings. Once deployed, SIMPLE will let AOL users exchange text-based instant messages with users of rival instant messaging services from Microsoft, Yahoo and others. Both AOL and Microsoft have vowed to support SIMPLE.

SIMPLE uses Session Initiation Protocol (SIP) to initiate an instant message and to transport it on a hop-by-hop basis across the Internet. While SIMPLE can handle short, text-based messages of up to 1,000 characters, IETF participants have discovered that it cannot carry attachments to instant messaging sessions. This is because of an inherent problem in SIP, which runs on TCP or User Datagram Protocol (UDP). While TCP features built-in congestion controls, UDP does not.

So UDP should not be used for sending large files. And SIP can't be adjusted to eliminate the possibility that large files would be sent over UDP. That scenario

IM attachments

The IETF is considering three proposals for a transport protocol to carry multimedia instant messaging attachments:

- RTP: Real-Time Protocol is currently used with SIP for most Internet-based telephone calls.
- **IMTP:** Instant Messaging Transport Protocol is a slimmed-down version of SIP that has yet to garner much interest from IETF participants.
- IMSX: IM Simple Exchange is based on a novel messaging framework called BEEP that was created by Marshall Rose.

would be catastrophic, Mankin says. "Imagine the after-school surge, with millions of teenagers online and sending MP3s to each other," she says. "We're talking about volumes of traffic that may be half of the backbone."

Mankin says even if AOL were to offer multimedia instant messaging attachments only to its own users, that could still cause congestion problems across the Internet if this issue isn't resolved.

"We can't tell AOL what to do, but they use all the major backbone providers," she says. "If UDP could be used by their [multimedia instant messaging] service, that would be a serious problem."

The IETF is working on a solution that will use SIMPLE to initiate multimedia instant messaging sessions but will rely on a different protocol with built-in congestion control to transport attachments. So far, the IETF has identified several options for that transport protocol, which will use what's called a session mode rather than a paging mode.

The co-chairs of the IETF's SIM-PLE working group are asking participants to submit additional proposals for the session-mode transport protocol this month. The group hopes to select one of the proposals by June.

Jon Peterson, co-chair of the SIMPLE working group and a senior technical industry liaison with NeuStar, says the new transport protocol will scale better to carry large volumes of instant messages and multimedia attachments.

"If the No. 1 and No. 2 [instant messaging] providers were going to interconnect, this would be really useful to handle the high volumes of messages," he says.

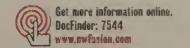
Meanwhile, government regulators could prevent AOL — the largest instant messaging service provider — from offering multimedia instant messaging services until this technical glitch is resolved. To get approval for its merger with Time Warner, AOL agreed to delay the release of multimedia instant messaging services until it opens its instant messaging system to rival services.

AOL failed to return multiple calls seeking clarification of its multimedia instant messaging plans. But AOL vowed last summer to use SIMPLE to provide interoperability with other instant messaging service providers.

The rest of the instant messaging industry is expected to adopt SIMPLE too, with Microsoft already shipping SIP support in the latest release of its MSN Messenger software.

In related news, the SIMPLE working group. plans to submit documents that detail how the paging mode works to the IETF leadership for approval in the next few weeks. A draft standard could be approved by March.

The multimedia instant messaging hurdle "is not a show stopper" for SIMPLE, says Robert Sparks, co-chair of the lETF's SIMPLE working group and a senior software architect with Dynamicsoft. "It's new functionality that a lot of people really, really want. But the [SIMPLE] method is sufficient to replicate the [instant messaging] services we have right now"



NetworkWorld 1/14/02 www.nwfusion.com

BackSpin Mark Gibbs



Paying attention or lip service?

ast week in this august journal, Shari Loback wrote a column titled "Finding grief instead of answers" (www.nwfusion.com, Doc-Finder: 7543). In this piece, Loback decried the uselessness of online

support forums, citing as examples the forums run by Novell and Compaq.

Loback is correct; these vendors are merely paying lip service to the idea. And it is not hard to see why. Saying you have an online forum looks good and is a low-cost marketing exercise, particularly if you put next to no effort into it after you turn it loose.

Pretty much every vendor-sponsored forum I've checked out has been a pathetic sham.

Another joke is chat-based support services. Here you have a support staff juggling a number of users on an Internet chat system. I have news for any company using or thinking of using this kind of system: It will never work. It feels clumsy, it is slow, and ultimately it is just another way of irritating your customers and the gods know you are probably pretty good at that already.

But far worse than online forums and chat support are the majority of vendors' e-mail technical support services. I have sent messages to several large companies regarding their products and, to date, not one has been satisfactorily handled. What usually happens is I get back a "We got your message and we'll get back to you." Occasionally I get a "Here are some links that might help you and we parsed your message and here's a section of our FAQ that might be relevant, but if it isn't then you'll have to message us again."

The only companies that have successfully dealt with my questions and bitching are small ones where I was able to build a relationship with individuals working there. Once you know it is Bill or Beth on the other end and they know you and they have responded helpfully, you feel like the exchange has value and you're not wasting your time. You also feel more positive about the company, even if you are having problems.

Loback also commented, "Software companies would probably argue that if you need support for their product you should purchase support contracts. Yet how many IT departments are going to spend thousands of dollars per year to ask a few questions?"

The answer is that none of them want to, but whether they like it or not that's what they are doing. Every time the product does something they don't expect and can't live with, someone has to run around and try to find out what's going on.

But that's not the complete cost because there are lots of problems that end users deal with by reboot-

ing or restarting. This also costs money but essentially is a hidden cost. It is not until IT people have to find a solution because the users' work is seriously affected that we normally associate a cost with the problem.

I think it is time that we all started taking a much harder and more in-depth look at what computer products are really costing us. To this end I suggest you consider setting up some kind of logging system and get the users to submit event reports for each and every problem for a period of, say, one month.

The survey could be as simple as a form on a piece of paper (you could do it on the computers in question but, as they may not be working ...). The users need to log time, date, product, brief failure details and time to recover. After the monitoring period we will collect our results and then summarize them as a cost analysis.

The results should all be forwarded to me, and we'll see whose applications are causing the most financial impact — which should make for a fine column.

l also suggest you summarize your own results and find the useless online forums of each vendor and post your results. Then we'll see if the vendors are paying any attention.

I'm paying attention at nwcolumn@gibbs.com.

'Net Buzz News, insights, opinions and oddities



Paul McNamara

Dial "E" for espionage

One attraction of writing this column is getting to yak with interesting entrepreneurs, even if their ideas have yet to make an impact on the market or corporate networks.

Dave Derosier, founder of Cell Block Technologies, is one such fellow. You may recall from a May 7, 2001 item here that Derosier's company is developing

technology that creates cell-phone-free zones for customers concerned about breaches of security and etiquette that are made inevitable by ubiquitous, unfettered mobile communications.

The trouble — at least for Derosier — is that federal regulations prohibit this kind of technology outside certain settings, primarily government buildings. While he insists this limitation will not deter Cell Block from shipping its first product this year, he also makes clear that a legal blessing to market to restaurants, theaters and security-conscious businesses would be a welcome development.

To buttress his position, Derosier points to a new Nokia product.

"The Nokia 7650 is not only a phone — it's also an integrated digital imaging device," boasts the Nokia press release. "Point, use the color display as a viewfinder, snap a picture, and share the moment. Save the picture in the photo album — there's memory for dozens of pictures — or send it to a friend."

'From a security standpoint, the threat increases significantly over voice-only cell phones," Derosier says. "The above quote could have ended '...or send it to train a dversary.'

don't have to have seen too many James Bond movies to be made nervous

the prospect of any phone-toting visitor to your business being a potential

appear of whatever he or she finds within view. Derosier can also spin a few

the rescenarios that involve voice-only mobile phones.

Superhaps comparies should be asking guests to check their phones at the

door. Or, maybe Derosier should be free to market his Cell-Block-R technology to any and all customers. . . . That's not likely.

"Spectrum holders and their industry associations are against the use of cell phone silencers and will argue that they 'interfere' with their spectrum," Derosier says. "Their pockets are much deeper than ours, and they have lots of lawyers." In other words, keep a close eye on those guests.

A sign of the times

Reportedly spotted at the intersection of Highway 183 and Loop 360, a major intersection in Austin, Texas, was a fellow holding a sign that read:

"C++/Java...Will code for \$60K and benefits."

Something tells me he would take \$50K.

That's more than a mouthful

Not only has the supply of venture capital shriveled under the pressure of economic recession, so too, apparently, has the number of organizations willing to keep track of who's getting whatever funding is still out there. A press release received here recently trumpeted "the exciting news" that "PricewaterhouseCoopers, Venture Economics and the National Venture Capital Association have created a partnership, dedicated to providing the most comprehensive and timely information to the marketplace."

PricewaterhouseCoopers' MoneyTree report has been a *Network World* staple. However, here's we've been asked to address this new conglomerate:

"The merged survey is called the PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree Survey in the first reference. Subsequent references may use PwC/VE/NVCA MoneyTree or PwC/VE/NVCA."

Any copy editor worth his or her green eyeshade should be muttering "over my dead body" right about now.

Want to mutter something to the columnist? The address is buzz@nww.com.



You can't have too much of a good thing. Unless you're talking Web transactions—and your network can't handle the load. After **Nabiscoworld.com** launched, the site managers faced exactly this issue: too many visitors were arriving at the site. Which meant too many people were turned away. Unhappy. AT&T solved the problem. We re-architected the site to handle double the current monthly visits. And we added performance tracking and data-capture tools to squeeze out more usable

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